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THE
EDINBURGH
NEW DISPENSATORY.

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THE

EDINBURGH NEW DISPENSATORY:

CONTAINING,

I.
The ELEMENTS of PHARMACEUTICAL CHEMISTRY.

II.
The MATERIA MEDICA; or, An Account of the different Subſtances employed in Medicine.

III.
The PHARMACEUTICAL PREPARATIONS and MEDICINAL COMPOSITIONS of the lateſt Editions of the LONDON and EDINBURGH Pharmacopœias.

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FROM THE BEST FOREIGN PHARMACOPOEIAS.

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AND ENRICHED WITH THE
Lateſt DISCOVERIES in *Natural Hiſtory*, *Chemiſtry*, and *Medicine*;

With New TABLES of ELECTIVE ATTRACTIONS,
Of ANTIMONIAL and MERCURIAL PREPARATIONS, &c.

AND
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and Principal PHARMACEUTICAL INSTRUMENTS.

Being an IMPROVEMENT of the
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THE FIFTH EDITION;
With many ALTERATIONS, CORRECTIONS, and ADDITIONS:
And a full and clear ACCOUNT of the NEW CHEMICAL DOCTRINES publiſhed by MR. LAVOISIER.

Edinburgh:
Printed for WILLIAM CREECH.
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Miss Mary S Tappan
March 18.1895

Entered in Stationers Hall.

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TO

JOSEPH BLACK, M. D.

PROFESSOR OF CHEMISTRY IN THE UNIVERSITY OF EDINBURGH;
FIRST PHYSICIAN TO HIS MAJESTY FOR SCOTLAND;

MEMBER OF SEVERAL OF THE PHILOSOPHICAL AND LITERARY SOCIETIES
IN EUROPE, &c. &c.

SIR,

THAT the Edinburgh New Diſpenſatory meets with your approbation is evinced by the public recommendation which you are pleaſed to give it in your lectures in this Univerſity. This circumſtance alone might ſeem a ſufficient reaſon for dedicating a New Edition of it to you, independantly of the following conſideration.

The principal improvements which Pharmacy has received within theſe laſt thirty years, made their firſt appearance in the ſeveral editions of the Edinburgh Pharmacopœia, which have been publiſhed within that period; and, in adopting many of theſe improvements, the College of Phyſicians of Edinburgh were moſtly decided by your opinion, as being the perſon in whoſe Chemical knowledge and accuracy they chiefly confided.

But there are ſtill other reaſons for putting this Edition of the Diſpenſatory under your patronage. The proceſſes of Pharmacy are explained in it on the principles and doctrines delivered in your lectures; and every endeavour has been made to render it as uſeful as poſſible to the gentlemen attending them.

I have the honour to be,
Sir,
Your moſt obedient,
Humble Servant,
JOHN ROTHERAM.

EDINBURGH,
June 1ſt, 1794.

PREFACE.

THE New Diſpenſatory, originally publiſhed by Dr. Lewis, by its great ſuperiority over every work of a ſimilar nature, ſoon attracted the attention of the public, and obtained very high reputation both at home and abroad.

It was divided into four parts; the firſt of which contained the Elements of Pharmacy, or what is called Pharmaceutical Chemiſtry. The general neglect of this intereſting and uſeful ſtudy, which former Authors of Diſpenſatories had ſhewn, induced Dr. Lewis to improve this part with ſingular care and preciſion. He gave a conciſe and ſyſtematic, yet comprehenſive view of the general properties and relations of the vegetable, animal, and mineral ſubſtances employed in medicine; he enumerated the medicinal principles they contain, and ſhewed the ſeveral means by which theſe native principles might be extracted and ſeparated, without making any alteration in their qualities; and at the ſame time, noticed the different forms and powers which they aſſume, from different natural or artificial operations, or from the mixture or coalition of one with another, avoiding every where all hypothetical reaſonings, and delivering only the direct reſult of experiment and obſervation. A practical account of the inſtruments and operations of the art of Pharmacy was judiciouſly added to the foregoing remarks, which gave the reader a full idea of them, without the tedioufneſs of minute details.

The ſecond part contained the Materia Medica, or an account of the Medical Simples; which, for reaſons aſſigned in the introduction, were arranged in alphabetical order. In treating of the ſeveral Simples, he gave, where it was neceſſary, a ſhort deſcription of the Simple, with the marks of its genuineneſs and goodneſs; and pointed out the diſtinguiſhing characters of ſuch as, from reſemblance in external appearance, are liable to be confounded with others of different qualities. With regard to their virtues, particular care was taken to reject fabulous ones, and to give only thoſe, which had either been confirmed by repeated experience, or may be rationally inferred from the ſenſible qualities of the ſubject, or from its agreement in ſmell, taſte, &c. with others of known virtue. Many of the capital articles were examined pharmaceutically, and conſiderable pains were taken to aſcertain in what ſeparable part of the mixt its virtues reſide, by what means the active principle is beſt extracted and preſerved, and in what form the ſubſtance itſelf or its preparations may be moſt commodiouſly and advantageouſly exhibited.

The third and fourth part contained the preparations of the London and Edinburgh Pharmacopœias, with ſome old ones which were ſtill kept in the apothecaries ſhops, and were occaſionally uſed; ſeveral of the more celebrated medicines that had come into eſteem on the Continent; many uſed in the hoſpitals, and ſome elegant extemporaneous preſcriptions that are frequently directed in practice.

Such was the work originally preſented to the public by Dr. Lewis; and its reputation made ſo large a demand for it, that during the author's life-time, many editions were printed, each ſucceeding one being improved according as new diſcoveries rendered improvements and additions neceſſary. Since the death of the ingenious and induſtrious author, Chemiſtry in all its branches has received many and important improvements; and theſe improvements have been ſucceſſively applied to the ſeveral editions of Lewis's Diſpenſatory, that have been publiſhed by other editors.

The book which we now publiſh, is ſtrictly ſpeaking no other than a new edition of Dr. Lewis's original; although in conſequence of the improved ſtate of Pharmacy, and the change in Medical practice, it has received ſo many alterations and additions, as to be in ſome meaſure a new work. The original plan is the ſame; only that in this, the third and fourth parts are compriſed in one, comprehending all the preparations and compoſitions contained in the laſt editions of the London and Edinburgh Pharmacopœias, together with many from ſome of the beſt modern foreign ones, and a few that have been recommended by authors of reputation, although they have no place in any public Pharmacopœia.

The alterations are not numerous, although they are material, eſpecially in thoſe parts of the work where the author explained the proceſſes, according to the theory of the exiſtence of a principle of inflammability or phlogiſton.

The reader will find many articles altogether rejected from this edition, eſpecially the hiſtory of ſuch articles of the Materia Medica, as are now become obſolete, and which are not ſanctioned by the authority of any of the modern Pharmacopœias; and of many of the old Galenical medicines, as they were called, which modern practice now totally rejects; ſome few of theſe laſt have, however, been retained with a view to ſhew the abſurdity of Pharmaceutical compoſition in the two preceding centuries, and even in the beginning of the preſent.

The additions are very conſiderable, and are chiefly; an account of the New Chemical doctrines as delivered by MR. LAVOISIER; enlarged tables of the Elective Attractions both ſingle and double; deſcriptions of Portable Furnaces, and ſome other Pharmaceutical inſtruments; the hiſtory of ſeveral articles of the Materia Medica; and a number of new preparations.

EDINBURGH,
June, 1794.

INTRODUCTION.

PHARMACY is the art of preparing, preſerving, and compounding ſubſtances for the purpoſes of medicine. This art has been commonly divided into two branches, *Galenical* and *Chemical* pharmacy. But for this diviſion there is no foundation in nature: And accordingly, proceſſes in one pharmacopœia, referred to the head of Chemical, are in another referred to the head of Galenical. There can be no doubt, that even the moſt ſimple pharmaceutical preparations are to a certain extent chemical. Hence this diviſion, founded on prejudice, and ſupported merely by a veneration for antiquity, is now baniſhed from almoſt every modern pharmacopœia.

PHARMACY has alſo been divided into *Theoretical* and *Practical;* the firſt, conſiſting not merely of ſpeculative opinions, but of a knowledge of facts and principles, tending to explain the *rationale* of proceſſes; the latter, comprehending the mere manual labour employed in proceſſes.

The former of theſe may therefore be juſtly ſtyled Scientific Pharmacy. And there can be no doubt that an acquaintance with it is eſſentially neceſſary to the due exerciſe of the healing art: For without it the practitioner muſt often err in the forms of preparations and compoſitions which he employs; and he muſt often be deceived in the effects reſulting from compoſitions, when he infers their properties from the known powers of the ingredients in their ſeparate ſtate. It would therefore be highly improper to detach the ſcientific and practical parts of pharmacy from each other. And accordingly, in the firſt part of this work, a general view is given of the elements of pharmacy, both ſcientific and practical, that the reader may be better prepared for the conſideration of the particular proceſſes which are treated of in the ſecond and third parts.

As the new chemical doctrines lately publiſhed in France by Mr Lavoiſier will in all probability be generally received in Europe, it has been thought the ſubjoined account of them would be acceptable to the pharmaceutical reader.

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Lond.—Pharmacopœia collegii regalis medicorum Londinenſis, 4to. Londini, 1788.

Edin.—Pharmacopœia collegii regii medicorum Edinburgenſis, 8vo. Edinburgi, 1792.

Gen.—Pharmacopœia Genevenſis, ad uſum noſocomiorum, 8vo. Genevæ, 1780.

Suec.—Pharmacopœia Suecica, editio altera emendata, 8vo. Holmiæ, 1779.

Roſs.—Pharmacopœia Roſſica, 4to. Petropoli, 1778.

Brun.—Diſpenſatorium pharmaceuticum Brunſvicenſe, 4to. Brunſvici, 1777.

Dan.—Pharmacopœia Danica, regia auctoritate, a collegio medico Haunienſi conſcripta, 4to. Hauniæ, 1772.

ABSTRACT

OF THE

NEW CHEMICAL DOCTRINES.

AS the new chemical doctrines, under the name of the Antiphlogiſtic theory, have acquired great celebrity, and have altogether overturned the theory of phlogiſton, ſo long followed by chemical philoſophers, it is preſumed that a general view of the principles of the new doctrine will not be unacceptable to moſt readers; and that an explanation of theſe principles might with propriety form part of the introduction to a ſyſtem of an art which depends ſolely on the ſcience of Chemiſtry.

A general account of the new Chemical philoſophy cannot be more properly conveyed, than by giving an abſtract of the Elements of Chemiſtry, lately publiſhed by Mr. Lavoisier, which is the only connected ſyſtem of the new doctrine. The ſyſtem is in a great meaſure his own: it owes its form and conſiſtency entirely to his inveſtigation and accurate obſervations; and is in a very conſiderable degree founded on his own diſcoveries. Although their ſuperiority has occaſioned theſe new doctrines to be quickly ſpread over Europe, yet their rapid progreſs in Britain has been farther aſſiſted by that excellent tranſlation of them into our language by Mr. KERR; who, from his thorough knowledge of the ſubject has done every juſtice, that was in the power of a tranſlator to do, to Mr Lavoiſier's book.

THE principal difference between Mr Lavoiſier's chemical philoſophy, and the STAHLIAN theory, conſiſts in his having totally rejected the hypothetical element phlogiſton, as unfounded, and even contradictory to fact and obſervation; while all the phenomena, uſually denominated phlogiſtic, are clearly ſhewn to depend on the abſorption, or extrication of vital air, or its ſolid baſe, called in the new nomenclature, *Oxygen*. It is extremely ſingular, but at the ſame time highly convenient, that nearly all the explanations of chemical phenomena given by the followers of the old theory, may be changed into the new doctrines, merely by abandoning the term phlogiſton, and adopting the element of oxygen, with a ſlight inverſion of the language. Whenever a body is by the Stahlians ſaid to become phlogiſticated, or, in other words, combined with the imaginary element of phlogiſton, Mr Lavoiſier and his followers have clearly proved that oxygen, or baſis of vital air, is extricated; and, on the contrary, that when a body was ſuppoſed to part with phlogiſton, or be dephlogiſticated, it had in reality abſorbed, and become combined with vital air.

Mr. Lavoisier begins with explaining his ideas concerning the conſtitution of elaſtic aëriform fluids or gaſſes, ſhewing, or at leaſt giving ſtrong arguments to prove, that they conſiſt of a ſolid baſis, combined with the matter of heat, called in the new nomenclature, *Caloric.* He founds his hypotheſis on the obſerved general effects of increaſed temperature in bodies; but more eſpecially that conſtant effect of their being augmented in their dimenſions in every direction in conſequence of an increaſed temperature. And he concludes from analogy, that all bodies are either *ſolid*, *fluid*, or *aëriform*, according to the proportions which exiſt between the attractive forces inherent in their particles, and the repulſive power which caloric exerts to ſeparate them. It follows from this theory, that all bodies are naturally ſolid, if heat, or caloric the cauſe of heat, were abſtracted; and conſequently, that all liquids and aëriform fluids conſiſt of a peculiar naturally ſolid baſis, or a *principium proprium*, the particles of which are prevented from obeying the general law of attraction by their being combined with caloric, as a *principium commune.* By this hypotheſis, and by the obſerved fact of the abſorption of vital air, he explains the appearance of heat in combuſtion; ſhewing that vital air which he calls oxygen gas, being compoſed of a ſolid baſis, viz. oxygen united with caloric, muſt neceſſarily depoſite its caloric, when it quits the form of air to combine with a ſolid combuſtible body, or to change from a more rare to a more denſe ſtate of aggregation; and conſequently, that theſe phenomena depend on the various elective attractions of caloric, as far as heat is concerned. That caloric when chemically combined with any body, alters the aggregation of that body to a more rare ſtate, either from ſolid to liquid, or from liquid to aëriform, according to the exiſting proportions; and that when ſet free from combination, it produces increaſe of temperature, accompanied with light, or fire, in proportion to its degree of concentration.

There are ſeveral ſimple elaſtic aëriform fluids, which in all known temperatures, retain the ſtate of gas, but which enter into combinations with other bodies, ſo as to aſſume the ſolid or liquid forms of aggregation. For the ſake of preciſion he chuſes to make a diſtinction between the ſolid baſis which forms theſe combinations, and the gas in which they are combined with caloric. The chief of theſe gaſſes has long been called vital air; but Mr Lavoiſier thinks it preferable to confine the term air to the atmoſpheric fluid, which is a mixture of ſeveral gaſſes, and to diſtinguiſh the individuals by adding to the generic term of gas, a ſpecific name derived from ſome eminent property of the ſolid baſis which forms its peculiar element. Thus he gives to vital air the name of *oxygen gas*, from the remarkable property of its baſe, which he calls oxygen, being the univerſal cauſe of acidity.

He has clearly proved that every inſtance of combuſtion is a caſe of the combination of this oxygen with the combuſtible body, and that in moſt caſes this combination may take place in ſeveral degrees or limits of ſaturation. In general, when this ſaturation is complete, the compound body is an acid; and in the new language, the combuſtible body is ſaid to be oxygenated. Thus moſt combuſtible bodies are acidifiable baſis, or ſubſtances capable of being converted into acids by combination with oxygen. When the degree of the ſaturation of the combuſtible body falls ſhort of what is neceſſary for the compoſition of an acid, the compound is named an oxyd. The proceſs in the former caſe is called oxygenation, and the baſe is ſaid to be oxygenated: in the latter caſe the baſe is ſaid to be oxydated, and the act is ſtyled oxydation. Theſe terms are arbitrary; but, as they give clearneſs and preciſion to chemical language, without lengthened explanation, they are of great uſe.

There is only one known inſtance of a combuſtible body combining with oxygen, without forming an acid or an oxyd approaching to the acid ſtate. Inflammable air, as it was formerly called, is a ſimple gas capable of uniting with oxygen by combuſtion: the two gaſſes depoſite their caloric, which ſhews itſelf in fire, or heat and light; and the compound body reſulting from their union is water. From this circumſtance the ſolid baſe of the combuſtible gas has received the name of *hydrogen* in the new nomenclature;

menclature; and in its aëriform ſtate, combined with caloric, it is called hydrogen gas.

One of the aëriform fluids, which compoſes the mixture called atmoſpheric air, is fatal to animal life, and extinguiſhes flame. It had formerly ſeveral names, according to the fancy of different philoſophers; ſuch as atmoſpheric mephitis, foul air, phlogiſticated air, &c. In the new nomenclature it is called *azotic gas*, and its baſe, with its lethal quality, *azot*. This baſe unites in ſeveral different degrees of ſaturation with oxygen, forming either oxydes or acids according to the ſaturating proportions of oxygen in the compound. In the loweſt degree of ſaturation with oxygen, the compound ſtill retains the aëriform ſtate, and does not diſſolve in water: This, according to the general principles of the new nomenclature, ought to be called *azotic oxyd gas;* but its former name, *nitrous gas,* being very familiar, and involving no contradiction or ambiguity, is retained. By a farther ſaturation with oxygen, this nitrous gas is changed into the ſtate of an acid, which retains the aëriform aggregation when alone; but is ſoluble, in conſiderable quantity, by water. For this acid the old name of nitrous gas is retained for the ſame reaſons as were given for retaining nitrous gas; but the two long known ſtates of this acid are diſtinguiſhed by varying the termination of the ſpecific name: The high-coloured, red, ſmoking acid, formerly called phlogiſticated, is now called nitr*ous* acid, and the pale, ſtronger acid, which does not emit red vapours, formerly called dephlogiſticated nitrous acid, is now named nitr*ic* acid. The difference between theſe two ſtates of the acid depends on different ſaturating quantities of oxygen, united with the ſame acidifiable baſe; the latter, or more perfect nitric acid, being fully ſaturated with oxygen, while in the former leſs perfect, and ſmoking nitrous acid, there is an over proportion of azot. Theſe acids may be mutually converted into each other; the nitric into the nitrous, either by the addition of azot, or the abſtraction of oxygen; and *vice verſa*.

Azot and hydrogen, combined together, form cauſtic volatile alkali, or *ammonia*, as it is called in the new nomenclature. The reaſon of changing the name of this ſubſtance is to avoid unneceſſary periphraſis in chemical language, and, as much as poſſible, to give each particular ſubſtance a clear and appropriated ſingle term; the great advantages of which general principle of nomenclature will be ſeen by comparing the new names of the neutral ſalts with their old arbitrary denominations.

Several ſimple combuſtible ſubſtances, during combuſtion, combine with oxygen, and form oxyds or acids in the ſame manner as azot. Sulphur, when burnt ſlowly, unites with an under-ſaturating quantity of oxygen to form a volatile, weak, and highly odorous acid, formerly called phlogiſticated vitriolic, or ſulphureous acid, but now termed ſulphur*ous* acid. When burnt more rapidly, it abſorbs a greater quantity of oxygen, and the reſulting compound is a ponderous ſtrong and inodorous acid, called ſulphuric acid, formerly the vitriolic. Theſe are likewiſe changeable into each other, either by adding oxygen to the ſulphureous, or by taking it away from the ſulphuric acid.

Phosphorus is a ſimple combuſtible ſubſtance, which, like ſulphur, combines with oxygen in two degrees of ſaturation; the leſs oxygenated combination being called the phoſphor*ous*, and the more perfectly oxygenated ſtate, the phoſphor*ic* acid.

Charcoal, or rather its elementary and ſimple combuſtible part, called *carbon*, or *char*, to diſtinguiſh it from the impure mixture called *charcoal*, unites, during combuſtion with oxygen to form carbonic or charic acid, formerly known by the names of fixed air, fixable air, aerial acid, &c.

There are ſeveral known acids which have not yet been decompoſed, and their acidifiable baſes conſequently remain unknown. Theſe are the *muriatic acid*, *boracic acid*, and *fluoric acid*; but from the general analogy, it may be fairly preſumed that they conſiſt of peculiar combuſtible baſes, combined with oxygen as their general acidifying element. Though muriatic acid cannot, in our preſent ſtate of chemical knowledge, be decompounded ſo as to diſcover its baſe, it can be made to unite with a conſiderable additional quantity of oxygen, and it thereby acquires properties very different from thoſe it poſſeſſed in its ordinary ſtate: In this new ſtate it is called in the new nomenclature, *oxygenated muri-*

atic acid. Super-oxygenated muriatic acid would perhaps be a better name for it.

Beſides theſe ſimple acids, or acids with ſimple baſes, many acids have compound baſes, or two or more ſimple acidifiable baſes united together, and theſe compound radicals are converted into acids, or are oxygenated by combination with oxygen. The compound acid, long known under the name of *Aqua regia*, is of this kind, and it is evident, from the elective attractions and other phenomena, that the nitric and muriatic acids which form it, are chemically combined together; that is, their acidifiable baſes unite to form a compound radical, for the acidification of which the oxygen of both acids ſerves in common. The other acidifiable and oxydable compound baſes are procured from vegetable and animal ſubſtances, and conſiſt, in general, of various proportions of carbon and hydrogen united together, ſometimes with the addition of azot, or phoſphorus, or both. In the ſtate of oxyds, theſe compound radicals have an addition of oxygen in a ſaturating degree not ſufficient for the acid ſtate: ſugar, ſtarch, gum, mucus, gluten, oil, reſin, alkohol, ether, &c. are compound acidifiable baſes, united only with the oxydating proportion of the oxygen. The acids of this order are,

New Names.	*Old Names.*
Tartarous acid	Acid of tartar.
Malic acid	Unknown till lately.
Citric acid	Acid of lemons.
Pyro-lignous acid	Empyreumatic acid of wood.
Pyro-mucous acid	Empyr. acid of ſugar.
Pyro-tartarous acid	Empyr. acid of tartar.

New Names.	*Old Names.*
Oxalic acid	Acid of ſorrel.
Acetous acid	Vinegar, or acid of vinegar.
Acetic acid	Radical vinegar.
Succinic acid	Volatile ſalt of amber.
Benzoic acid	Flowers of benzoin.
Camphoric acid	Unknown till lately.
Gallic acid	The aſtringent principle of vegetables.
Lactic acid	Acid of ſour whey.
Saccholactic acid	Unknown till lately.
Formic acid	Acid of ants.
Bombic acid	Unknown till lately.
Sebacic acid	Ditto.
Lithic acid	Urinary calculus.
Pruſſic acid	Colouring matter of Pruſſian blue.

It is not pretended that theſe acids can be formed by combining the ſimple elements of their baſes, and adding oxygen to the compound radical, ſo as to produce a ſynthetic proof of their nature and conſtitution; but by means of deſtructive diſtillation in cloſe veſſels, and by other accurate modes of analyſis, their various elements can be ſeparated from each other, and their ſeveral proportions aſcertained with tolerable preciſion.

The metals from another ſet of oxydable or even acidifiable baſes, and it is worthy of remark, that in the ſtate of oxyds, they all agree with the general phenomena of alkaline bodies; while many of them, by a farther addition of oxygen, are converted into acids. They are all combuſtible bodies, and moſt of them require an exceeding high degree of temperature to combine them with oxygen in the dry way; but all of them may be combined with it in the moiſt way, by taking advantage of the elective attractions. What was formerly called the reguline form of metals, is their moſt ſimple ſtate, in which they are not combined with any known ſubſtance; while, on the contrary, the ſtate of calx, in which they were formerly ſuppoſed to be pure elementary bodies, is that in which, by addition of a ſaturating portion of oxygen, leſs than is neceſſary for the acid ſtate, they are converted into metallic oxyds, formerly denominated calces. Of this ſtate of oxydation, there are, in moſt of the metals, ſeveral different degrees; and, in the new nomenclature, theſe different degrees of oxydation are diſtinguiſhed by their colours, or by the peculiar circumſtances in which the oxydation is produced.

It is abſolutely neceſſary for the ſolution of a metal in an acid, that the metal be in the ſtate of an oxyd, previouſly to the act of ſolution, or that it become oxydated during the proceſs, either by decompoſing a part of the acid uſed to diſſolve it, or the water with which the acid is diluted. Thus it always happens, that, when metals not previouſly oxydated, are diſſolved in the nitric acid, or in concentrated ſulphuric acid, a part of the acid is decompoſed; azot, or nitrous gas, or both, being diſcharged in conſequence of part of the acidifying oxygen, being taken away from the baſe to oxydate the metal; or ſulphurous acid, or even ſulphur is evolved, from a ſimilar decompoſition of the perfect ſulphuric acid, when that is employed for the ſolution. When diluted ſulphuric acid is employed, the water of dilution is decompoſed to oxydate the metal, in conſequence of the elements of the acid being held together by a ſtronger elective attraction, than that which is exerted between the conſtituent ingredients of water; the conſequence is, that, in this caſe, hydrogen gas becomes diſengaged, and the metal, while it is diſſolving in the acid, is oxydated by a part of the oxygen of the water.

The above is in a great meaſure the whole of the new chemical doctrines; what remains is little more than a change of nomenclature, for the purpoſe of convenience and preciſion, and to avoid ambiguity, or what appear to the author to be falſe views of phenomena and chemical facts.

The names of the metals are all made to terminate in Latin, in the neuter gender; and one word is uſed for denoting each in its moſt perfect ſtate of purity, as far as the preſent ſtate of chemical knowledge permits. Thus Platinum, Aurum, Argentum, &c. denote the perfect metallic, or reguline ſtate of Platina, Gold, Silver, &c.

The alkalies and earths are named as follow:

New Names.	*Old Names.*
Potaſh	Pure, or cauſtic, fixed vegetable alkali.
Soda	—— —— —— mineral ——
Ammonia	Volatile alkali prepared with quick-lime.
Lime	Pure calcareous earth.
Magneſia	Calcined magneſia.
Barytes	Pure ponderous earth.
Clay or argil	Pure argiliaceous earth.
Siliceous earth	Pure ſiliceous earth.

The combinations of alkalies, earths, and metallic oxyds with acids, forming what are called neutral, middle, earthy, and metallic ſalts, are divided into genera according to the acid which forms part of their conſtitution; and the peculiar baſis with which the acid is combined in each particular ſalt, forms the ſpecific name of that compound. By this means the former unintelligible, or falſe names of theſe ſalts, are rejected, and terms are employed, which not only indicate the particular ſalt meant to be expreſſed, but alſo enumerate the ingredients, and even expreſs the ſtate of the ingredients which enter the compoſition. Thus all the ſalts which have the ſulphuric acid, combined with an alkaline, earthy, or metallic baſe, are named *ſulphats;* while thoſe, having the ſulphurous acid combined with the ſame baſes, are named *ſulphites:* and ſo of the other acids as in the following table.

New Names.	*Old Names.*
Sulphat of barytes	Heavy ſpar, Vitriol of heavy earth.
potaſh	Vitriolated tartar, Sal de duobus, Arcanum duplicatum.
ſoda	Glauber's ſalt.
lime	Selenite, gypſum, calcareous vitriol.
magneſia	Epſom ſalt, ſedlitz ſalt, magneſian vitriol.
ammonia	Glauber's ſecret ſal ammoniac.
argil	Alum.
zinc	White vitriol, goſlar vitriol, white coperas, vitriol of zinc.
iron	Green coperas, green vitriol, martial vitriol, vitriol of iron.
mangaueſe	Vitriol of manganeſe.
cobalt	Vitriol of cobalt.
nickel	Vitriol of nickel.
lead	Vitriol of lead.
tin.	Vitriol of tin.

New Names.	*Old Names.*
Sulphat of copper.	Blue coperas, blue vitriol, Roman vitriol, vitriol of copper.
biſmuth	Vitriol of biſmuth.
antimony	Vitriol of antimony.
arſenic	Vitriol of arſenic.
mercury	Vitriol of mercury.
ſilver	Vitriol of ſilver.
gold	Vitriol of gold.
platina	Vitriol of platina.

In ſome caſes theſe ſalts may be formed with a limited and permanent ſuper-ſaturating proportion of acid, or with the contrary exceſs of the alkaline earthy or metallic baſe: in theſe two caſes the particular ſtate of ſaturation is denoted by prefixing the word acidulous or alkaline to the former names. Thus cream, or cryſtals of tartar, which is known to conſiſt of potaſh, or the fixed vegetable alkali, united to an exceſs of the tartarous acid, is called acidulous tartarite of potaſh, and ſo of the reſt.

This is as full an account of the doctrines and nomenclature of the new chemical philoſophy, as the limits of this prefatory diſcourſe would admit: For father particulars the reader muſt be referred to Mr. Lavoiſier's Elements, where full and clear explanations are given of all the particular parts of the ſyſtem; and where the chief objections, which have been made againſt it by the followers of the old theory, are obviated and anſwered.

It is certainly no ſmall confirmation of the reaſonableneſs, and ſuperior evidence of this new chemical philoſophy, that Dr. Black, who has long taught chemiſtry in this univerſity, with the greateſt and moſt deſerved reputation, and who is himſelf a very conſiderable chemical diſcoverer, has acknowledged, that the theory of phlogiſton, according to which all his reaſonings have been regulated ſince he began to give lectures, is now become much embarraſſed, in conſequence of the numerous diſcoveries which have lately been made; and that it does not afford ſuch clear and ſatisfactory explications of the phenomena of chemiſtry as Mr. Lavoiſier's theory, which is more ſimple and eaſily comprehenſible, and more cloſely connected with the new chemical facts.

Mr. Kirwan alſo, who has long been a ſtrenuous defender of the Stahlian doctrine, and has even publiſhed a treatiſe in its ſupport againſt Mr. Lavoiſier's opinions, has, with more ingenuouſneſs than falls to the lot of moſt men, candidly and openly acknowledged his error, and now ſubſcribes to the truth of thoſe very opinions he ſo lately publicly oppoſed.

DIRECTIONS FOR PLACING THE PLATES.

Plate I. No. 1. 2. not cut ſeparate, to be placed between page 48 & 49.

II. to fold facing page 52.

III. No. 1. 2. not cut ſeparate, to be placed between page 56 and 57.

THE EDINBURGH
NEW DISPENSATORY.

PART I.

ELEMENTS of PHARMACY.

CHAPTER I.

A general View of the Properties and Relations of Medicinal Subſtances.

SECT. I.

VEGETABLES.

VEGETABLES are organized bodies, furniſhed with a variety of veſſels for the reception, tranſmiſſion, and perſpiration of different fluids. Analogous to animals, they are produced from ſeeds or eggs, and are endowed with functions, by which the aliment they imbibe is changed into new forms, into ſolids and fluids, peculiar to particular plants, and to different parts of the ſame plant.

The analogy between the vegetable and animal kingdoms will appear ſtill more ſtriking, when we conſider that vegetables exhibit, though in a leſs degree, all the phenomena of ſenſibility and motion.

The *pabulum* of vegetables, like that of moſt animals, is of a mixed nature; and is compoſed of the neceſſary union of water, heat, light, and different kinds of airs.

From varieties in the ſtate and proportion of theſe ſeveral principles a very multiplied diverſity takes place in the external form, quantity, and quality of one and the ſame vegetable: hence the difference of plants from the ſoil, climate, ſeaſon, and other ſimilar circumſtances. The influence of heat, and light, is perhaps the moſt important article in the aliment of vegetables. It is of importance however to remark, that the ſoundneſs and ſpecific principles of vegetables are not invariably the more complete in proportion to the vigour of their growth; high health, which is always a dangerous ſtate in the conſtitution of animals is often the means of perverting or deſtroying the œconomy of vegetable life. Thus the finer aromatics, which naturally inhabit dry and ſandy ſoils, when tranſplanted into a moiſt and rich one, grow with rapidity and vigour, and have their bulk conſiderably increaſed ; but loſe their fragrance, as if their active principles were exhauſted by the luxuriance of their growth.

Plants are alſo found to differ conſiderably in the different periods of their growth. Thus, ſome herbs in their infancy abound moſt with odoriferous matter ; others again yield little or none till they have attained to a more advanced age. Many fruits, in their immature ſtate, contain an auſtere acid juice, which by maturation is changed into a ſweet one : others, as the orange, are firſt warm and aromatic, and afterwards by degrees become filled with a ſtrong acid. The common grain, and ſundry other ſeeds, when beginning to vegetate, are remarkably ſweet : yet the kernels of certain fruits prove, at the ſame period, extremely acid. The roots of ſome of our indigenous plants, whoſe juice is, during the ſummer, thin and watery, if wounded early in the ſpring, yield rich balſamic juices, which, expoſed to a gentle warmth, ſoon concrete into ſolid gummy reſins, ſuperior to many of thoſe brought from abroad. In open expoſures, dry ſoils, and fair warm ſeaſons, aromatic plants become ſtronger and more fragrant, while thoſe of an oppoſite nature become weaker. To theſe particulars therefore due regard ought to be had in collecting plants for medicinal uſes.

It may be proper to obſerve alſo, that the different parts of one plant are often very different in quality from each other. Thus the bitter herb wormwood riſes from an aromatic root ; and the narcotic popyhead includes ſeeds which have no narcotic power. Theſe differences, though very obvious in the common culinary plants, do not ſeem to have been ſufficiently obſerved or attended to, in thoſe plants that have been admitted as articles of the materia medica.

Without any obvious dependence on the circumſtances above mentioned, vegetables are, like animals, alſo obnoxious to diſeaſes and death ; which, whether occaſioned by intenſe cold, by inſects, lightning, or other cauſes, always maintain a ſtriking analogy to the affections of animals. The principal difference between animals and vegetables is, that the ſeveral parts of vegetables do not conſtitute ſuch a mutually depending ſyſtem as thoſe of the more perfect animals. Hence it is, that a very conſiderable part of a plant may be diſeaſed or dead, while the reſt enjoys life and perfect good health. Though the phyſiology of vegetables is hitherto inſufficient for forming any complete doctrines of the cauſes and cure of their ſeveral diſeaſes ; yet, in many caſes, it might be uſeful to attend to the formation of a pathology of the vegetable kingdom : in the ſtate even of our preſent knowledge, it is of importance in the ſtudy of pharmacy to be aware that ſuch diſeaſes really exiſt, and are capable of changing or deſtroying the active principles of many of our moſt valuable herbs. In the plants more evidently ſenſitive, the diſeaſes exhibit a very cloſe analogy to many of thoſe of animals : ſeveral of the remote cauſes are ſuch as are known to obſtruct perſpiration, to induce general debility, or otherwiſe diſorder the animal œconomy The diſeaſes alſo are evidently marked by a diminution of their ſenſitive and moving principle; and perhaps, in conſequence of this diminution, their ſolids, their ſap, and other fluids, ſhrivel and decay, and the whole plant aſſumes new forms, and is impregnated with inert, or fraught with noxious, principles. Analogous alſo to animals, the plant, when deprived of the living principle, runs into all thoſe changes common to inanimate matter. We ſhall now proceed to examine the changes to which vegetables are ſubject.

I. *Productions from Vegetables by* FERMENTATION.

FERMENTATION is a ſpontaneous motion, excited in dead vegetables, peculiar to thoſe organic ſubſtances.

The circumſtances favouring fermention are in general, a certain degree of fluidity, a certain degree of heat, and the contact of the air.

There are however ſeveral ſubſtances, of themſelves not ſuſceptible of fermentation, which nevertheleſs may be brought into that ſtate by the admixture of thoſe that are; as by adding to them, along with a proper quantity of water, a portion of the yeaſt or head thrown up to the ſurface of fermenting liquors. Without this expedient many vegetables would run immediately into the acetous, and ſome of them into the putrefactive fermentations. It is alſo found, that though acetous and putrefactive ferments are unable to ſtop the vinous fermentation, they are however capable of aſſimilating the liquor to their own nature in a more perfect form; and hence it is, that in the manufactures of wine, rum, and vinegar, it is found uſeful to keep the veſſels well ſeaſoned with the liquor intended to be prepared. Three different kinds or ſtages of fermentation have been generally diſtinguiſhed by chemiſts. The vinous, which furniſhes alcohol, or what is commonly called ſpirit; the acetous, which affords vinegar; and the putrefactive, which yields volatile alkali. Being generally conſtant in ſucceſſion to each other, the whole proceſs will be beſt underſtood by conſidering each of them apart. All vegetable ſubſtances are not capable of the vinous fermentation: the conditions neceſſary to its production are, a ſaccharo-mucilaginous matter; a fluidity ſomewhat viſcous, a heat from 40 to 96 of Farenheit's thermometer; a conſiderable maſs of matter; and the acceſs of the external air.

The phenomena exhibited in the vinous fermentation are, a briſk tumultuary motion, the liquor loſes its tranſparency and homogeneous appearance, its bulk and heat are conſiderably increaſed, the ſolid parts are buoyed up to the top, and a great quantity of a permanently elaſtic fluid is diſengaged. This fluid or gas being heavier than atmoſpheric air, floats near the ſurface of the liquor; and is eaſily diſtinguiſhable from common air, by extinguiſhing flame and animal life, precipitating lime from limewater, cryſtalliſing and rendering mild the cauſtic alkali: it is the gas ſylveſtre of Helmont, and the fixed air, aërial acid or carbonic acid of modern chemiſts. After ſome time the tumultuary motion in the liquor is ſuddenly checked, perhaps from the generation of the alcohol;

hol; a fine lee is alſo precipitated; and the floating matter, if not purpoſely prevented, ſubſides to the bottom of the veſſel. In the wines produced from the grape, a large quantity of a ſaline concrete is incruſted on the ſides and bottom of the caſks; and this is commonly known by the name of tartar, the properties of which we ſhall afterwards examine. At the termination of theſe phenomena, the vegetable matter has aſſumed new properties; and from being a mild, ſweet, or gently acidulous infuſion, is now become the briſk, pungent, and inebriating liquor, called Wine or Vinous Liquor.

Fermented or vinous liquors are prepared from a great variety of ſubſtances: the ſaccharine ſubſtances, or thoſe rendered ſo by a beginning vegetation, are in general fitteſt for the purpoſe; a multitude of collateral circumſtances are alſo neceſſary for the proper management of the proceſs; and in vinous liquors, great diverſities are obſervable. Theſe differences are not only obſervable in wines produced from different ſubſtances, but alſo in thoſe produced from one and the ſame vegetable. Theſe diverſities may be referred to the different conditions of the ſubſtance to be fermented, to the ſtates of fluidity and heat, and to the degree of fermentation to which the ſubject has been carried. This laſt is principally modified by the preceding cauſes, and frequently by very minute and apparently trifling circumſtances in the conduct of the operation. Hence the numerous varieties in the vinous liquors produced from the grape, which have been more peculiarly denominated *wines.* It is an important part of pharmacy to enquire into theſe differences with care and attention.

The diverſity in vinous liquor is ſtill more obvious in thoſe produced from different vegetables. Many of the native qualities of the ſubſtances, as colour, taſte, flavour, &c. often remain in the wine; not being totally ſubdued by that degree of fermentation neceſſary for rendering the liquor vinous. Hence the remarkable difference of wines produced from the grape, and the graminous ſeeds: the wine produced from theſe laſt has been more ſtrictly called *beer;* and is well know to differ from wines produced from apples, pears, apricots, or any other fruit.

1. Of the Product of the VINOUS Fermentation.

THE product of all theſe fermented vegetables is, as we have juſt now mentioned, the pungent and intoxicating liquor called wine. It is proper, however, in pharmacy, to enquire into the different principles which enter its compoſition. As the wine furniſhed by grapes is the moſt valuable and generally known, we ſhall take it as an example. Grape-wine, then, is compoſed of a large quantity of water, of alcohol, of tartar, and of a colouring matter. It is proper, however, that we ſhould lay down the proofs of ſuch a combination in wine, and explain the methods by which it may be decompoſed and ſeparated into the conſtituent parts above-mentioned.

For this purpoſe, recourſe is generally had to the aſſiſtance of fire. The liquor is put into an alembic; and, as ſoon as it boils, a white milky fluid, of a pungent ſmell and taſte, diſtils into the recipient. This fluid is called *aqua vitæ,* or, in common language, *ſpirit;* it is compounded of water and certain matters capable of ſuſpenſion in water, of alcohol, and of a ſmall proportion of oil; which laſt communicates to it a milky colour: the yellow colour, which the ſpirit afterwards aſſumes, is partly owing to the ſame oil, and partly to a ſolution of the extractive matter of the caſks in which it has been kept. This aquavitæ, like wine, always partakes more or leſs of the flavour of the vegetable from whence it has been prepared; but by farther diſtillation, and other proceſſes, it is freed of its water, and of the native principles of the vegetable matter which the watery parts had kept in ſolution; when thus prepared, it is a pure *alcohol* or *inflammable ſpirit*, which is always the ſame from whatever vegetable the wine was produced.

After all the aquavitæ has been drawn off, the reſiduum now ceaſes to be wine; it is of a chocolate colour, of an acid and auſtere taſte; it has now aſſumed a heterogenous appearance, and a great quantity of ſaline cryſtals is obſerved in the liquor; theſe cryſtals are the *tartar*. By the above proceſſes, then, we have fully decompoſed *wine:* but it is to be obſerved, that by this analyſis we have not ſeparated the different parts of wine in their original and entire ſtate; nor are we hitherto acquainted with any method of regenerating the wine by recombining the aquavitæ with the reſiduum: ſome product of the fermentation is, therefore, changed or deſtroyed. The reſiduum, when evaporated, aſſumes the form and conſiſtence of an extract; the colouring part may be abſtracted by rectified ſpirit of wine, but is not ſeparable from it by the addition or water: it ſeems therefore to be of a gummi-reſinous nature, and extracted from the grape by means of the alcohol generated during the fermentation.

From this analyſis, it is obvious, that wine is compoſed of water, colouring matter, alcohol, and a ſomething that is changed or loſt. We ſhall refer the particular examination of alcohol and tartar to the proper places aſſigned them in this work; and we hope that from this general ſurvey of the ſubject, the properties of wine, as a ſolvent of ſeveral medicinal ſubſtances to be afterwards examined, will be much more readily underſtood. Before we go farther, it is proper to add, that the *lee* precipitated from wine during fermentation, is a compound of the ſtones and pieces of grape, tartar, and vitriolated tartar: the two firſt are inert bodies; the two laſt we ſhall particularly examine in their proper order. We are now prepared to conſider the nature and product of the next kind or ſtage of fermentation, viz.

2. ACETOUS Fermentation.

To underſtand the proceſs of the acetous fermentation, we muſt leave for the preſent our analyſis of the product of the vinous fermentation, and return to the wine in its moſt perfect and entire ſtate. It is proper to obſerve, that though, after the liquor has become vinous, a partial ceſſation of the more obvious phenomena takes place, yet the wine ſtill ſuffers a ſlow and imperceptible degree of fermentation. We muſt not conſider the liquor as being in a quieſcent ſtate, but as conſtantly approaching to the next ſtage, viz. the *acetous fermentation.* This kind of inſenſible fermentation, or what we may call the intermediate change, ſeems to be neceſſary to the perfection of the wine. Its degree, however,

ever, is to be regulated under certain limitations: when too much checked, as by cold, thunder, or other cauſes, the wine becomes vapid; when too much encouraged by heat, contact of air, &c. it approaches too far to the acetous change: but in order that the vinous ſhall proceed fully to the acetous fermentation, ſeveral circumſtances are required; and theſe are in general the ſame that were before neceſſary to the vinous ſtage, viz. a temperate degree of heat, a quantity of unfermented mucilage, and acid matter, ſuch as tartar, and the free acceſs of external air. When thus ſituated, the liquor ſoon paſſes into the acetous fermentation: but during this ſtage, the phenomena are not ſo remarkable as in the vinous; the motion of the fermenting maſs is now leſs conſiderable, a groſs unctuous matter ſeparates to the bottom, the liquor loſes its vinous taſte and flavour, becomes ſour, and on diſtillation affords no inflammable ſpirit. It is now the acetous acid or vinegar; and when ſeparated by diſtillation from the unctuous lee, may be preſerved a conſiderable length of time without undergoing the putrid change: to this laſt, however, it always approaches in the ſame manner as the vinous conſtantly verges to the acetous fermentation; and this will much more readily happen if the acid be allowed to remain with the unctuous feculent matter above-mentioned. When thus ſituated, the vinegar quickly loſes its tranſparency, aſſumes a blackiſh colour, loſes its ſourneſs and agreeable flavour, has an offenſive taſte and ſmell, and, when diſtilled at a certain period of the proceſs, yields volatile alkali.

The liquor is now arrived to the laſt ſtage, viz.

3. The Putrefactive Fermentation.

From the preceding phenomena, it is obvious that the ſame ſubſtance which is capable of the vinous and acetous, is capable of the putrefactive fermentation. It is perhaps impoſſible to induce the firſt without a mixture of the ſecond; nor the ſecond without a mixture of the third. Hence every wine is a little acid; and there are few vinegars without ſome diſpoſition towards putrefaction, or without volatile alkali, neutralized by the acid which predominates. Notwithſtanding this ſeeming continuation of one and the ſame proceſs, the putrefaction of vegetables has its particular phenomena. The vegetable matter, if in a fluid ſtate, becomes turbid, and depoſites a large quantity of feculent matter; a conſiderable number of air bubbles are raiſed to the top; but their motion is not ſo briſk in the putrefactive as in the vinous, or even the acetous fermentation: neither the bulk nor heat of the liquor ſeems to be increaſed; but an acrid pungent vapour is perceived by the ſmell, and which, by chemical trials, is found to be the volatile alkali; by degrees this pungent odour is changed into one leſs pungent, but much more nauſeous. If the ſame train of phenomena have taken place in a vegetable conſiſting of parts ſomewhat ſolid, its coheſion is broken down into a ſoft pulpy maſs; this maſs, on drying, entirely loſes its odour, leaving a black charry-like reſiduum, containing nothing but earth and ſaline ſubſtances.

It is proper to obſerve, that though the circumſtances favouring the putrefactive are the ſame with thoſe requiſite to the vinous and acetous fermentations, yet theſe ſeveral conditions are not ſo indiſpenſable to the former as to the two latter ſtages. All vegetables have more or leſs tendency to putrefaction, and a great number of them are capable of the acetous fermentation: but the proportion of thoſe capable of the vinous is not conſiderable; and theſe laſt will run into the putrid in circumſtances in which they cannot undergo the vinous or even the acetous fermentations. Thus flour made into a ſoft paſte will become ſour; but it muſt be perfectly diſſolved in water to make it fit for the vinous ſtage; whereas mere dampneſs is ſufficient to make it paſs to the putrid fermentation: beſides the condition of fluidity, a leſs degree of heat, and a more limited acceſs of air, are ſufficient for producing the putrefactive fermentation.

It is therefore probable, that all vegetables, in whatever ſtate they may be, are liable to a kind of putrefaction: in ſome the change is ſlow and gradual, but never fails at length to break down the texture and coheſion of the moſt ſolid.

We formerly obſerved, that the vapours ſeparated during the vinous fermentation were fixed air; and it is indeed true, that in the incipient ſtate of this fermentation a quantity of gas is ſtill evolved. In the advanced ſtate, however, we find theſe vapours of a different nature; they now tarniſh ſilver, and render combinations of lead with the vegetable acids black. When produced in large quantity, and much confined, as happens in ſtacks of hay put up wet, they burſt into actual flame, conſuming the hay to aſhes: on other occaſions, the eſcape of theſe vapours diſcovers itſelf by an emiſſion of light, as in the luminous appearance of rotten wood when placed in the dark. This gas is therefore different from that ſeparated during the vinous fermentation; it is the inflammable air of Dr Prieſtly, or the hydrogen of Lavoiſier, either pure or mixed, ſometimes with ſulphur, and ſometimes with phoſphorus.

We have thus, for the ſake of clearneſs, and in order to comprehend the whole of the ſubject, traced the phenomena of fermentation through its different ſtages: it is proper, however, to obſerve, that though every vegetable that has ſuffered the vinous will proceed to the acetous and putrefactive fermentations, yet the ſecond ſtage is not neceſſarily preceded by the firſt, nor the third by the ſecond; or in other words, the acetous fermentation is not neceſſarily confined to thoſe ſubſtances which have undergone the vinous, nor the putrefactive to thoſe which have undergone the acetous fermentation. Thus gums diſſolved in water paſs to the acetous without undergoing the vinous fermentation; and glutinous matter ſeems to run into putrefaction without ſhewing any previous aceſcence: and farther, theſe changes frequently happen although the matter be under thoſe conditions which are favourable to the preceding ſtages.

From the foregoing ſketch, the importance of this ſubject in the ſtudy of Pharmacy will be obvious at firſt ſight: it cannot, however, afford us any uſeful information on the native principles of vegetables: but it preſents to us new products, the importance of which is well known in chemiſtry, in medicine, and in arts. The neceſſity of being well acquainted with the ſeveral facts will appear in the pharmaceutical hiſtory and preparation of many of our moſt valuable medicines. We are next to conſider a ſet of no leſs complicated operations, viz.

II. *Productions from vegetables by* FIRE.

IN order to analyſe, or rather to decompoſe vegetables by the naked fire, any given quantity of dry vegetable matter is put into a retort of glaſs or earth. Having filled the veſſel about one half or two thirds, we place it in a reverberatory furnace, adapting it to a proper receiver. To collect the elaſtic fluids, which, if confined, would burſt the veſſels (and which, too, it is proper to preſerve, as being real products of the analyſis), we uſe a perforated receiver with a crooked tube, the extremity of which is received into a veſſel full of water, or of mercury, and inverted into a baſon containing the ſame fluid: by this contrivance, the liquid matters are collected in the ſame receiver, and the aëriform fluids paſs into the inverted veſſel. If the vegetable is capable of yielding any ſaline matter in a concrete ſtate, we interpoſe between the retort and the receiver another veſſel, upon whoſe ſides the ſalt ſublimes. Theſe things being properly adjuſted, we apply at firſt a gentle heat, and increaſe it gradually, that we may obſerve the different products in proper order. At firſt an inſipid watery liquor paſſes over, which is chiefly compoſed of the water of vegetation; on the heat being a little farther increaſed, this watery liquor, or *phlegm*, becomes charged with an oily matter, having the odour of the vegetable, if it poſſeſſed any in its entire ſtate; along with this oil we alſo obtain an acid reſembling vinegar, and which communicates to the oil ſomewhat of a ſaponaceous nature; on the heat being carried ſtill farther, we procure more acid, with an oil of a dark colour, and the colour gradually deepens as the diſtillation advances. The oil now ceaſes to retain the peculiar odour of the vegetable; and, being ſcorched by the heat, ſends forth a ſtrong diſagreeable ſmell like tar: it is then called *empyreumatic oil.* About this time alſo ſome elaſtic vapours ruſh into the inverted veſſel; theſe generally conſiſt of inflammable or fixed airs, and very often of a mixture of both; the volatile ſalt now alſo ſublimes, if the vegetable was of a nature to furniſh it. By the time the matter in the retort has acquired a dull red heat nothing further will ariſe: we then ſtop; and allowing the veſſels to cool, we find a maſs of charcoal, retaining more or leſs the form and appearance of the vegetable before its decompoſition.

We have thus deſcribed, in the order of their ſucceſſion, the ſeveral products obtained from the generality of vegetables when analyſed in cloſe veſſels and in a naked fire.

It is, however, to be underſtood, that the proportion of theſe principles turns out very various; the more ſucculent vegetables yield more water, and the more ſolid afford a greater quantity of the other principles. Independently alſo of this difference, the nature of the products themſelves are found to differ in different vegetables: thus in the cruciform plants, and in the emulſive and farinaceous ſeeds, the ſaline matter which comes over with the water and oil is found to be alkaline; ſometimes it is ammoniacal, from the combination of the acid with the volatile alkali paſſing over at the end of the proceſs; it is alſo probable, that the acids of vegetables are not all of the ſame nature, though they exhibit the ſame external marks. When volatile alkali is obtained, it is always found in the mild effervеſcing ſtate; it is procured, however, from a few vegetables only; and ſeldom in a concrete form, but generally diſſolved in the phlegm: The plants containing much oily combuſtible matter ſeem to be thoſe which more peculiarly yield inflammable air, while the mucilaginous appear to be as peculiarly fitted for affording the fixed air or aërial acid. The chemical properties of charcoal are always the ſame from whatever vegetable it has been produced; but it conſtantly contains ſome ſaline matter; it therefore remains that we ſhould next decompoſe the charcoal, in order to obtain or ſeparate the articles next to be mentioned.

The Fixed Salts of Vegetables.

WHEN vegetable charcoal has been burnt, there remains a quantity of aſhes or cinders of a blackiſh grey or white colour: theſe, when boiled or infuſed in water, communicate to it a pungent ſaline taſte; the ſalt thus held in ſolution may be reduced to a concrete ſtate, by evaporating the water: this ſaline matter, however, is generally mixed with ferruginous, earthy, and other impurities. In this impure ſtate it is the

Potaſhes uſed in Commerce.

THIS ſalt, or rather compound of different ſalts, is procured by burning large quantities of wood of any kind; and the proceſs is called *incineration:* the predominating ſalt, however, is alkaline; and as the neutral ſalts are obtained to better advantage by other means, they are generally neglected in the purification of potaſhes. Potaſhes, then, freed from its impurities, and ſeparated from the other ſalts by proceſſes to be hereafter mentioned, is

The Fixed Vegetable Alkali.

ALKALIES in general are diſtinguiſhed by a pungent taſte, the very reverſe of that of ſourneſs; by their deſtroying the acidity of every ſour liquor; and by their changing the blue colours of vegetables to a green: they more or leſs attract moiſture from the air, and ſome of them deliquate. The fixed alkalies which we ſhall at preſent conſider more particularly, are fuſible by a gentle heat: by a greater degree of heat they are diſſipated; their fixity, therefore, is only relative to the other kind of alkali, viz. volatile: they diſſolve and form glaſs with certain earths: and laſtly, when joined with acids to the point of ſaturation, they form what are called *Neutral Salts.*

Theſe characters will afford ſome neceſſary and preliminary knowledge of theſe ſubſtances in general; and we ſhall afterwards find that they are ſufficient to diſtinguiſh theſe ſalts from all other ſaline bodies: it is neceſſary, however, to examine them more minutely, and our analyſis has not yet reached ſo far as to preſent them in their ſimpleſt ſtate. Previous to the diſcoveries of Dr Black, the vegetable fixed alkali (which we at preſent ſpeak of particularly), when ſeparated from the foreign matter with which it is mixed in the aſhes, was conſidered to be in its pureſt ſtate: we ſhall afterwards find that it is ſtill a compound body, and is really a neutral ſalt, compounded of pure alkali, and fixed air or the aërial acid. We preſume, then, that the particular hiſtory of its chemical and medicinal properties will be better underſtood when we come to thoſe proceſſes by which it is brought to its moſt pure and ſimple ſtate, and ſhall only therefore obſerve for the preſent, that fixed vegetable alkali, not only in its pure ſtate, but alſo when neutralized by aërial acid, is always the ſame, from whatever vegetable it has been produced. Thoſe of ſome ſea-plants muſt, however, be excepted: the ſaline matter obtained from them is, like the former, in a mixed and impure ſtate; it differs, however, from potaſhes, in containing an alkali that poſſeſſes different properties. The cinder of ſea-plants containing this alkali is called

Soda.

Soda, as we have juſt now hinted, is produced by the incineration of the kali and other ſea-plants: And from this impure and mixed maſs of cinder, is obtained the marine, mineral, or muriatic alkali, or natron, as it is now denominated by the London college. This alkali has acquired theſe names, becauſe it is the baſe of the common marine or ſea ſalt: it differs from the vegetable alkali in being more eaſily cryſtaliſable; when dried, it does not like the former attract humidity ſufficient to form a liquid; it is ſomewhat leſs pungent to the taſte, and has leſs attraction for acids than the vegetable alkali.

It is, however, to be obſerved, that this alkali, when deprived of fixed air, that is to ſay, when brought to its pureſt ſtate, can ſcarcely, if at all, be diſtinguiſhed from the vegetable alkali; and indeed the true diſtinction can only be formed from their combinations, each of them affording with the ſame acid very different neutral ſalts. It belonged to this place to mention ſome of the characters of alkalies in general, and alſo ſome of thoſe marks by which the vegetable and mineral alkalies are diſtinguiſhed from each other; but for a more particular hiſtory of their chemical and medicinal properties, we refer to the account of their pharmaceutical preparations. As the volatile alkali is rarely produced from vegetables, but is generally obtained from animal matter, we ſhall conſider that kind of alkali when we come to analyſe the animal kingdom.

Of Vegetable Earth.

After all the ſaline matter contained in the aſhes of vegetables has been waſhed off by the proceſſes before mentioned, there remains an inſipid earthy-like powder, generally of a whitiſh colour, inſoluble in water, and from which ſome iron may be attracted by the magnet. It is ſaid to have formed alum with the vitriolic acid; a kind of ſelenite has alſo been obtained, but ſomewhat different from that produced by the union of the ſame acid with calcareous earth; this reſiduum of burnt vegetables differs however from calcareous earth, in not being ſuſceptible of becoming quicklime by calcination. Later experiments have ſhewn that it is a combination of calcareous earth with phoſphoric acid; ſo that it is ſimilar to the aſhes of burnt bones.

We have thus finiſhed the analyſis of vegetables by the naked fire: and have only to obſerve, that, like the analyſis by fermentation, it can afford us no uſeful information on the native principles of the vegetable itſelf.

When chemiſtry began firſt to be formed into a rational ſcience, and to examine the component parts and internal conſtitution of bodies, it was imagined, that this reſolution of vegetables by fire, diſcovering to us all their active principles, unclogged and unmixed with each other, would afford the ſureſt means of judging of their medicinal powers. But on proſecuting theſe experiments, it was ſoon found that they were inſufficient for that end: that the analyſes of poiſonous and eſculent plants were nearly and often preciſely the ſame: that by the action of a burning heat, the principles of vegetables are not barely ſeparated, but altered, tranſpoſed, and combined into new forms; inſomuch that it was impoſſible to know in what form they exiſted, and with what qualities they were endowed, before theſe changes and tranſpoſitions happened. If, for example thirty two ounces of a certain vegetable ſubſtance are found to yield ten ounces and a half of acid liquor, above one ounce and five drachms of oil, and three drachms and a half of fixed alkaline ſalt: What idea can this analyſis give of the medicinal qualities of *gum Arabic?*

III. SUBSTANCES *naturally contained in Vegetables, and ſeparable by Art without Alteration of their Native Qualities.*

IT has been ſuppoſed, that there is one general fluid or blood which is common to all vegetables, and from which the fluids peculiar to particular plants and their parts are prepared by a kind of ſecretion: To this ſuppoſed general fluid, botaniſts have given the name of *ſap*. This opinion is rendered plauſible from the analogy in many other reſpects between vegetable and animal ſubſtances: and indeed if we conſider the water of vegetation as this general fluid, the opinion is perhaps not very far from the truth: but the notion has been carried much farther than ſuppoſing it to be mere water, which opinion however does not ſeem to be well ſupported by experience. It is difficult to extract this ſap without any mixture of the conſtituent parts of the vegetables which afforded it: and in a few vegetables, from which it diſtils by wounding the bark, we find this ſuppoſed general blood poſſeſſing various properties: Thus the juice effuſed from a wounded birch is conſiderably different from that poured out from an inciſion in the vine.

Vegetables, like animals, contain an oil in two different ſtates. That is, in ſeveral vegetables a certain quantity of oil is ſuperabundant to their conſtitution, is often lodged in diſtinct reſervoirs, and does not enter into the compoſition of their other principles: in moſt vegetables, again, another quantity of oil is combined, and makes a conſtituent part of their ſubſtance. Of this laſt we formerly ſpoke in our analyſis of vegetables by fire; and it is the former we mean to conſider under the three following heads.

1. GROSS

1. GROSS OILS.

GROSS OILS abound chiefly in the kernels of fruits, and in certain ſeeds; from which they are commonly extracted by expreſſion, and are hence diſtinguiſhed by the name of *Expreſſed Oils.* They are contained alſo in all the parts of all vegetables that have been examined, and may be forced out by vehemence of fire; but their qualities are much altered in the proceſs by which they are extracted or diſcovered, as we have ſeen under the foregoing head.

Theſe oils, in their common ſtate, are not diſſoluble either in vinous ſpirits or in water, though by means of certain intermedia they may be united both with the one and the other. Thus a ſkilful interpoſition of ſugar renders them miſcible with water into what are called lohochs and oily draughts: by the intervention of gum or mucilage they unite with water into a milky fluid: by alkaline ſalts they are changed into a ſope, which is miſcible both with water and ſpirituous liquors, and is perfectly diſſolved by the latter into an uniform tranſparent fluid. The addition of any acid to the ſopy ſolution attacks the alkaline ſalt; and the oil, which of courſe ſeparates, is found to have undergone this remarkable change, that it now diſſolves without any intermedium in pure ſpirit of wine.

Expreſſed oils, expoſed to the cold, loſe their fluidity greatly: ſome of them, in a ſmall degree of cold, congeal into a conſiſtent maſs. Kept for ſome time in a warm air, they become thin and highly rancid: their ſoft, lubricating, and relaxing quality is changed into a ſharp acrimonious one: and in this ſtate, inſtead of allaying, they occaſion irritation; inſtead of obtunding corroſive humours, they corrode and inflame. Theſe oils are liable to the ſame noxious alteration while contained in the original ſubjects: hence ariſes the rancidity which the oily ſeeds and kernels, as almonds and other ſeeds, are ſo liable to contract in keeping. Nevertheleſs, on triturating theſe ſeeds or kernels with water, the oil, by the intervention of the other matter of the ſubject, unites with the water into an emulſion or milky liquor, which, inſtead of growing rancid, turns ſour on ſtanding.

It appears then that ſome kind of fermentation goes on in the progreſs of oils in the rancid ſtate; and it would ſeem from ſome experiments by Mr Macquer, that an acid is evolved, which renders them more ſoluble in ſpirit of wine than before. From ſome experiments of modern French chemiſts, oils are ſuppoſed to become rancid, in conſequence of their having abſorbed a portion of oxygen or the acidifying principle.

In the heat of boiling water, and even in a degree of heat as much exceeding this as the heat of boiling water does that of the human body, theſe oils ſuffer little diſſipation of their parts. In a greater heat they emit a pungent vapour, ſeemingly of the acid kind; and when ſuffered to grow cold again, they are found to have acquired a greater degree of conſiſtence than they had before, together with an acid taſte. In a heat approaching to ignition, in cloſe veſſels, the greateſt part of the oil ariſes in an empyreumatic ſtate, a black coal remaining behind.

2. SEBACEOUS MATTER.

FROM the kernels of ſome fruits, as that of the chocolate nut, we obtain, inſtead of a fluid oil, a ſubſtance of a butyraceous conſiſtence; and from others, as the nutmeg, a ſolid matter as firm as tallow. Theſe concrets are moſt commodiouſly extracted by boiling the ſubſtance in water: the ſebaceous matter, liquefied by the heat, ſeparates and ariſes to the ſurface, and reſumes its proper conſiſtence as the liquor cools.

The ſubſtances of this claſs have the ſame general properties with expreſſed oils, but are leſs diſpoſed to become rancid in keeping than moſt of the common fluid oils. It is ſuppoſed by the chemiſts, that their thick conſiſtence is owing to a larger admixture of the acidifying principle: for, in their reſolution by fire, they yield a vapour more ſenſibly acid than the fluid oils: and fluid oils, by the admixture of concentrated acids, are reduced to a thick or ſolid maſs.

3. ESSENTIAL OILS.

ESSENTIAL oils are obtained only from thoſe vegetables, or parts of vegetables that are conſiderably odorous. They are the direct principle, in which the odour, and oftentimes the warmth, pungency, and other active powers of the ſubject, reſide; whence their name of *Eſſences* or *Eſſential oils*.

Eſſential oils are ſecreted fluids: and are often lodged in one part of the plant, while the reſt are entirely void of them. Sometimes they are found in ſeparate ſpaces or receptacles, viſible by the naked eye, as in the rind of lemons, oranges, citrons, and many other fruits. Theſe receptacles may be broken by preſſing the peel; and the oil ſqueezed out is viſible in the form of very minute drops; and if it is ſqueezed out in the flame of a candle, it inflames, and forms a ſtream of liquid fire; hence, too, an oleoſaccharum may be made, by rubbing the exterior ſurface of theſe peels with a piece of lump ſugar, which at once tears open theſe veſicles, and abſorbs their contained oil.

Eſſential oils unite with rectified ſpirit of wine, and compoſe with it one homogeneous tranſparent fluid; though ſome of them require for this purpoſe a much larger proportion of ſpirit than others. The difference of their ſolubility perhaps depends on the quantity of diſengaged acid; that being found by Macquer not only to promote the ſolution of eſſential oils, but even of thoſe of the unctuous kind. Water alſo, though it does not diſſolve their whole ſubſtance, may be made to imbibe ſome portion of their moſt ſubtile matter, ſo as to become conſiderably impregnated with their flavour; by the admixture of ſugar, gum, the yolk of an egg, or alkaline ſalts, they can be wholly diſſolved or ſuſpended in water. Digeſted with volatile alkali, they undergo various changes of colour, and ſome of the leſs odorous acquire conſiderable degrees of fragrance; while fixed alkali univerſally impairs their odour.

The ſpecific gravity of moſt of theſe oils is leſs than that of water; ſome of them, however, are ſo heavy as to ſink in water; but theſe varieties ſhall be noticed when we come to their preparation.

In the heat of boiling water, theſe oils totally exhale; and they are commonly extracted from ſubjects that contain them in conſequence of this property.

Eſſential oils, expoſed for ſome time to a warm air, ſuffer an alteration very different from that which the expreſſed undergo. Inſtead of growing thin, rancid, and acrimonious, they gradually become thick, and at length harden into a ſolid brittle concrete; with a remarkable diminution of their volatility, fragrancy, pungency, and warm ſtimulating quality. In this ſtate they are found to conſiſt of two kinds of matter; a fluid oil, volatile in the heat of boiling water, and nearly of the ſame quality with the original oil; and of a groſſer ſubſtance which remains behind, and which is not exhalable without a burning heat, or ſuch as changes its nature and reſolves it into an acid, empyreumatic oil, and a black coal.

The admixture of a concentrated acid inſtantly produces, in eſſential oils, a change nearly ſimilar to that which time effects. In making theſe kinds of mixtures, the operator ought to be on his guard; for when a ſtrong acid, particularly that of nitre is poured haſtily on an eſſential oil, a great heat and ebullition enſue, and the mixture burſts into flame with an exploſion. The union of expreſſed oils with acids, is accompanied with much leſs conflict.

4. CONCRETE ESSENTIAL OILS.

SOME vegetables, as roſes and elecampane root, inſtead of a fluid eſſential oil, yield a ſubſtance poſſeſſing the ſame general properties, but of a thick or ſebaceous conſiſtence. This ſubſtance appears to be of as great volatility and ſubtility of parts, as the fluid oils: it equally exhales in the heat of boiling water, and concretes on the ſurface of the collected vapour. The total exhalation of this matter, and its concreting again into its original conſiſtent ſtate, without any ſeparation of it into a fluid and a ſolid part, diſtinguiſhes it from eſſential oils that have been thickened or indurated by age or by acids.

5. CAMPHOR.

CAMPHOR is a ſolid concrete, obtained chiefly from the woody parts of a certain Indian tree. It is volatile like eſſential oils, and ſoluble both in oils and ardent ſpirits: it unites freely with water by the intervention of gum, but very ſparingly and imperfectly by the other intermedia that renders oils miſcible with watery liquors. It differs from the ſebaceous as well as fluid eſſential oils, in ſuffering no ſenſible alteration from long keeping; in being totally exhalable, not only by the heat of boiling water, but in a warm air, without any change or ſeparation of its parts, the laſt particle that remains unexhaled appearing to be of the ſame nature with the original camphor: in its receiving no empyreumatic impreſſion, and ſuffering no reſolution, from any degree of fire to which it can be expoſed in cloſe veſſels, though readily combuſtible in open air; in being diſſolved by concentrated acids into a liquid form; and in ſeveral other properties which it is needleſs to ſpecify in this place.

6. RESIN.

ESSENTIAL oils, indurated by age or acids, are called *Reſins.* When the indurated maſs has been expoſed to the heat of boiling water, till its more ſubtile part, or the pure eſſential oil that remained in it, has exhaled, the groſs matter left behind is likewiſe called reſin. We find, in many vegetables, reſins analogous both to one and the other of theſe concretes; ſome containing a ſubtile oil, ſeparable by the heat of boiling water, and others containing nothing that is capable of exhaling in that heat.

Reſins in general diſſolve in rectified ſpirit of wine, though ſome of them much more difficultly than others: it is chiefly by means of this diſſolvent that they are extracted from the ſubjects in which they are contained. They diſſolve alſo in oils both expreſſed and eſſential; and may be united with watery liquors by means of the ſame intermedia which render the fluid oils miſcible with water. In a heat leſs than that of boiling water, they melt into an oily fluid; and in this ſtate they may be incorporated with one another. In their reſolution by fire, in cloſe veſſels, they yield a manifeſt acid, and a large quantity of empyreumatic oil.

7. GUM.

GUM differs from the foregoing ſubſtances in being uninflammable; for though it may be burnt to a coal, and thence to aſhes, it never yields any flame. It differs remarkably alſo in the proportion of the principles into which it is reſolved by fire; the quantity of empyreumatic oil being far leſs, and that of the acid far greater. In the heat of boiling water it ſuffers no diſſipation: nor does it liquefy like reſins; but continues unchanged, till the heat be ſo far increaſed as to ſcorch or turn it to a coal.

By a little quantity of water, it is ſoftened into a viſcous adheſive maſs, called mucilage: by a larger quantity it is diſſolved into a fluid, which proves more or leſs glutinous according to the proportion of gum. It does not diſſolve in vinous ſpirits, or in any kind of oil: nevertheleſs when ſoftened with water into a mucilage, it is eaſily miſcible both with the fluid oils and with reſins: which by this means become ſoluble in watery liquors along with the gum, and are thus excellently fitted for medicinal purpoſes.

This elegant method of uniting oils with aqueous liquors, which has been kept a ſecret in a few hands, appears to have been known to Dr Grew. "I took (ſays he) oil of aniſeeds, and pouring it upon *another* " *body*, I ſo ordered it, that it was thereby turned into a perfect milk-" white balſam or butter; by which means the oil became mingleable " with any vinous or watery liquor, eaſily and inſtantaneouſly diſſolving " therein in the form of a milk. And note, this is done without the " leaſt alteration of the ſmell, taſte, nature, or operation of the ſaid oil. " By ſomewhat the ſame means any other ſtillatitious oil may be tranſ-" formed into a milk-white butter, and in like manner be mingled with " water, or any other liquor; which is of various uſe in medicine, and " what I find oftentimes very convenient and advantageous to be done."

(*Grew of Mixture, chap.* v. *inſt.* i. § 7.) This inquiry has lately been further proſecuted in the firſt volume of the Medical Obſervations publiſhed by a ſociety of phyſicians in London; where various experiments are related, for rendering oils, both eſſential and expreſſed, and different unctuous and reſinous bodies, ſoluble in water by the mediation of gum. Mucilages have alſo been uſed for ſuſpending crude mercury, and ſome other ponderous and inſoluble ſubſtances: the mercury is by this means conſiderably divided; but the particles are very apt to run together or ſubſide, if a pretty conſtant agitation be not kept up.

As oily and reſinous ſubſtances are thus united to water by the means of gum, ſo gums may in like manner be united to ſpirit of wine by the intervention of reſins and eſſential oils; though the ſpirit does not take up near ſo much of the gum as water does of the oil or reſin.

Acid liquors, though they thicken pure oils, or render them conſiſtent, do not impede the diſſolution of gum, or of oils blended with gum. Alkaline ſalts, on the contrary, both fixt and volatile, though they render pure oils ſoluble in water, prevent the ſolution of gum, and of mixtures of gum and oil. If any pure gum be diſſolved in water, the addition of any alkali will occaſion the gum to ſeparate, and fall to the bottom in a conſiſtent form; if any oily or reſinous body was previouſly blended with the gum, this alſo ſeparates, and either ſinks to the bottom, or riſes to the top, according to its gravity.

8. GUM RESIN.

BY gum-reſin is underſtood a mixture of gum and reſin. Many vegetables contain mixtures of this kind, in which the component parts are ſo intimately united, with the interpoſition perhaps of ſome other matter, that the compound, in a pharmaceutical view, may be conſidered as a kind of diſtinct principle; the whole maſs diſſolving almoſt equally in aqueous and in ſpiritous liquors; and the ſolutions being not turbid or milky, like thoſe of the groſſer mixtures of gum and reſin, but perfectly tranſparent. Such is the aſtringent matter of biſtort root, and the bitter matter of gentian. It were to be wiſhed that we had ſome particular name for this kind of matter; as the term Gum-reſin is appropriated to the groſſer mixtures, in which the gummy and reſinous parts are but looſely joined, and eaſily ſeparable from each other.

We ſhall afterwards find that it will be convenient to imitate this natural combination by art. As the effects of medicines very generally depend on their ſolubility in the ſtomach, it is often neceſſary to bring their more inſoluble parts, ſuch as reſinous and oily matters, into the ſtate of gum reſin; this is done, as we have mentioned in the former article, by the mediation of mucilage. By this management theſe matters become much more ſoluble in the ſtomach; and the liquor thus prepared is called an emulſion.

9. SALINE MATTER.

OF the ſaline juices of vegetables there are different kinds, which have hitherto been but little examined: the ſweet and the acid ones are the moſt plentiful and the beſt known.

There have lately, however, been diſcovered a conſiderable variety of ſalts in different vegetables. The mild fixed alkali, which was formerly conſidered as a product of the fire, has been obtained from almoſt all plants by macerating them in acids; the vegetable alkali is the moſt common, but the mineral is alſo found in the marine plants. Beſides the fixed alkali, ſeveral other ſalts have been detected in different vegetables; ſuch as vitriolated tartar, common ſalt, Glauber's ſalt, nitre, febrifuge ſalt, and ſelenite. From ſome experiments, too, the volatile alkali has been ſuppoſed to exiſt ready formed in many plants of the cruciform or tetradynamian tribe.

It is, however, to be underſtood, that though ſome of theſe ſalts are really products of vegetation, others of them are frequently adventitious, being imbibed from the ſoil without any change produced by the functions of the vegetable.

The juices of vegetables, expoſed to a heat equal to that of boiling water, ſuffer generally no other change than the evaporation of their watery parts; the ſaline matter remaining behind, with ſuch of the other fixed parts as were blended with it in the juice. From many plants, after the exhalation of great part of the water, the ſaline matter gradually ſeparates in keeping, and concretes into little ſolid maſſes, leaving the other ſubſtances diſſolved or in a moiſt ſtate; from others, no means have yet been found of obtaining a pure concrete ſalt.

The ſalts more peculiarly native and eſſential to vegetables, are the ſweet and the ſour: theſe two are frequently blended together in the ſame vegetable, and ſometimes paſs into each other at different ages of the plants. Of the ſour ſalts ſeveral kinds are known in pharmacy and in the arts; ſuch as thoſe of ſorrel, of lemons, oranges, citrons, &c. The ſaccharine ſalts are alſo obtained from a great number of vegetables; they may in general be eaſily diſcovered by their ſweet taſte: the ſugar-cane is the vegetable from which this ſaline matter is procured in greateſt quantity and with moſt profit in commerce. For its medicinal and chemical properties we refer to the article Sugar.

The ſweet and ſour ſalts above-mentioned diſſolve not only in water, like other ſaline bodies, but many of them, particularly the ſweet, in rectified ſpirit alſo. The groſs oily and gummy matter, with which they are almoſt always accompanied in the ſubject, diſſolves freely along with them in water, but is by ſpirit in great meaſure left behind. Such heterogeneous matters as the ſpirit takes up, are almoſt completely retained by it, while the ſalt concretes; but of thoſe which water takes up, a conſiderable part always adheres to the ſalt. Hence eſſential ſalts, as they are called, prepared in the common manner from the watery juices of vegetables, are always found to partake largely of the other ſoluble principles of the ſubject; while thoſe extracted by ſpirit of wine are more pure. By means of rectified ſpirit, ſome productions of this kind may be freed from their impurities. Perfect ſaccharine concretions obtained from many of our indigenous ſweets may be thus purified.

There is another kind of ſaline matter obtained from ſome reſinous bodies, particularly from benzoin, which is of a different nature from the foregoing, and is a peculiar acid, ſoluble both in water and in vinous ſpirits, though difficultly and ſparingly in both: They ſhew ſeveral evident marks of acidity, have a ſmell like that of the reſin from which they are obtained, exhale in a heat equal to that of boiling water, or a little greater, and are inflammable in the fire.

10. Farina or Flour.

This ſubſtance partakes of the nature of gum, but has more taſte, is more fermentable, and much more nutritive. It abounds in very many vegetables, and is generally depoſited in certain parts, ſeemingly for the purpoſe of its being more advantageouſly accommodated to their nouriſhment and growth. Several of the bulbous and other roots, ſuch as thoſe of potatoes, briony, thoſe from which caſſava is extracted, ſalep, and many others, contain a great quantity of a white *fæcula* reſembling and really poſſeſſing the properties of farina. The plants of the leguminous tribe, ſuch as peas and beans, are found alſo to abound with this matter. But the largeſt quantity of farina reſides in grains, which are therefore called *farinaceous*. Of this kind are wheat, rye, barley, oats, rice, and other ſimilar plants.

At firſt ſight farina appears to be one homogeneous ſubſtance: it is, however, found to be a compound of three different and ſeparable parts. To illuſtrate this, we ſhall take as an example the farina of wheat, being the vegetable which affords it in greateſt quantity, and in its moſt perfect ſtate. To ſeparate theſe different parts, we form a paſte with any quantity of flour and cold water; we ſuſpend this paſte in a bag of muſlin or ſuch like cloth; we next let fall on it a ſtream of cold water from ſome height, and the bag may now and then be gently ſqueezed; the water in its deſcent carries down with it a very fine white powder, which is received along with the water in a veſſel placed below the bag: The proceſs muſt be continued till no more of this white powder comes off, which is known by the water that paſſes through the bag ceaſing to be of a milky colour. The proceſs being now finiſhed, the farina is found to be ſeparated into three different ſubſtances: the glutinous or veget-oanimal part remains in the bag; the amylum or ſtarch is depoſited from the water which has been received in the veſſel placed below the bag; and laſtly, a mucous matter is held diſſolved in the ſame water from which the ſtarch has been depoſited: This mucous part may be brought to the conſiſtence of honey, by evaporating the water which kept it in ſolution.

Theſe ſeveral parts are found alſo to differ remarkably in their ſenſible and chemical properties. The vegeto-animal part is of a whitiſh grey colour, is a tenacious, ductile, and elaſtic matter, partly poſſeſſing the texture of animal membranes. Diſtilled in a retort, it yields, like all animal matters, a volatile alkali; and its coal affords no fixed alkali. It is not only inſoluble, but even indiffuſible in water; both which appear from its remaining in the bag after long continued lotions. Like gums, it is inſoluble in alcohol, in oils, or ether: but is alſo inſoluble in water, and yields on diſtillation products very different from thoſe afforded by gums: It is therefore of an animal nature, and approaches perhaps nearer to the coagulable lymph of animals than to any other ſubſtance.

The fixed alkali, by means of heat, diſſolves the gluten vegeto-animale, but when it is precipitated from this ſolution by means of acids, it is found to have loſt its elaſticity. The mineral acids, and eſpecially the nitrous, are alſo capable of diſſolving the vegeto-animal part of the farina.

The ſtarch, amylum, or the amylaceous matter makes the principal part of the farina. As we before noticed, it is that fine powder depoſited from the water which had pervaded the entire farina: it is of a greyiſh white colour, but can be rendered much whiter by making it undergo a certain degree of fermentation. Starch is inſoluble in cold water; but in hot water forms a tranſparent glue; hence the neceſſity of employing cold water in ſeparating it from the vegeto-animal part. Diſtilled in a retort, it yields an acid phlegm; and its coal affords, like other vegetables, a fixed alkaline ſalt. As ſtarch forms the greateſt part of the farina, it is probably the principal nutritive conſtituent in bread.

The mucous, or rather the mucoſo-ſaccharine matter, is only in a very ſmall quantity. This ſubſtance on diſtillation is found to exhibit the phenomena of ſugar The uſe of this matter ſeems to be that of producing the vinous fermentation: and we may obſerve that the preparation of good bread probably depends on a proper proportion of the three different parts above deſcribed: viz. that the vinous fermentation is promoted by the mucoſo ſaccharine part, the acetous by the ſtarch, and the putrid by the gluten vegeto-animale. From different ſtates or degrees of theſe ſeveral ſtages of fermentation the qualities of good bread are probably derived. What remains on this very important ſubject will be taken up when we come to ſpeak of wheat in the Materia Medica.

II. Of the COLOURING MATTER of Vegetables.

THE colouring matter of vegetables ſeems to be of an intermediate nature between the gummy and reſinous part. It is equally well extracted by water and by rectified ſpirit from many plants: it is alſo, however, procurable in the form of a *lake*, not at all ſoluble in either of theſe menſtrua. It would ſeem that the colouring matter, ſtrictly ſo called, has hitherto eluded the reſearches of chemiſts. It is only the *baſe* or *nidus*, in which the real colouring matter is embodied, that chemiſtry has as yet reached; and on the chemical properties of this *baſe*, colours are capable of being extracted by different menſtrua, and of being variouſly accommodated to the purpoſes of dying. The ſubſtances from which the colours of vegetables are *immediately* derived, is without doubt a very ſubtile body. Since plants are known to loſe their colour when excluded from the light of the ſun, there is reaſon to think that the *immediately* colouring ſubſtance is primarily derived from the matter of the ſun, ſomewhat elaborated by vegetable life.

Many of theſe dyes are evolved or variouſly modified by chemical operations. Thus a colouring matter is ſometimes depoſited in the form of a *fæcula* during the putrefaction of the vegetable; in others it is evolved or changed by alum, by acids, or by alkali. We may alſo obſerve, that any part of the vegetable may be the baſe of the colouring matter. This appears from the ſolubility of the different dyes in their proper menſtrua; and in theſe ſolutions we have not been able to ſeparate the real colouring matter from the baſe in which it is inviſcated. After all, then, we muſt conclude, that a full inveſtigation of this ſubject more properly belongs to the ſublimer parts of chemiſtry, than to the buſineſs in which we are at preſent engaged.

The colouring drugs will be conſidered in their proper places.

In finiſhing our hiſtory of the vegetable kingdom, it only remains that we ſhould offer ſome

General Obſervations on the Foregoing Principles.

1. Essential oils, as already obſerved, are obtainable only from a few vegetables: but groſs oil, reſin, gum, and ſaline matter, appear to be common, in greater or leſs proportion, to all; ſome abounding more with one, and others with another.

2. The ſeveral principles are in many caſes intimately combined: ſo as to be extracted together from the ſubject, by thoſe diſſolvents, in which ſome of them ſeparately could not be diſſolved. Hence watery infuſions and ſpirituous tinctures of a plant, contain reſpectively more ſubſtances than thoſe of which water or ſpirit is the proper diſſolvent.

3. After a plant has been ſufficiently infuſed in water, all that ſpirit extracts from the reſiduum may be conſidered as conſiſting wholly of ſuch matter as directly belongs to the action of ſpirit. And on the contrary, when ſpirit is applied firſt, all that water extracts afterwards may be conſidered as conſiſting only of that matter of which water is the direct diſſolvent.

4. If a vegetable ſubſtance, containing all the principles we have enumerated, be boiled in water, the eſſential oil, whether fluid or concrete, and the camphor, and volatile eſſential ſalt, will gradually exhale with the ſteam of the water, and may be collected by receiving the ſteam in proper veſſels placed beyond the action of the heat. The other principles not being volatile in this degree of heat, remain behind: the groſs oil and ſebaceous matter float on the top: the gummy and ſaline ſubſtance, and a part of the reſin, are diſſolved by the water, and may be obtained in a ſolid form by ſtraining the liquor, and expoſing it to a gentle heat till the water has exhaled. The reſt of the reſin, ſtill retained by the ſubject, may be extracted by ſpirit of wine, and ſeparated in its proper form by exhaling the ſpirit. On theſe foundations, moſt of the ſubſtances contained in vegetables may be extracted, and obtained in a pure ſtate, however they may be compounded together in the ſubject.

5. Sometimes one or more of the principles is found naturally diſengaged from the others, lying in diſtinct receptacles within the ſubject, or extravaſated and accumulated on the ſurface. Thus, in the dried roots of angelica, cut longitudinally, the microſcope diſcovers veins of reſin. In the flower cups of hypericum, the leaves of the orange-tree, tranſparent points are diſtinguiſhed by the naked eye: which, at firſt view, ſeem to be holes, but on a cloſer examination are found to

be little veſicles filled with eſſential oil. In the bark of the fir, pine, larch, and ſome other trees, the oily receptacles are extremely numerous, and ſo copiouſly ſupplied with the oily and reſinous fluid, that they frequently burſt, eſpecially in the warm climates, and diſcharge their contents in great quantities. The Acacia tree in Egypt, and the plumb and cherry in Europe yield almoſt pure gummy exudations. From a ſpecies of aſh is ſecreted the ſaline ſweet ſubſtance manna; and the only kind of ſugar with which the ancients were acquainted, appears to have been a natural exudation from the cane.

6. The foregoing principles are, as far as is known, all that naturally exiſt in vegetables; and all that art can extract from them, without ſuch operations as change their nature, and deſtroy their original qualities. In one or more of theſe principles, the colour, ſmell, taſte, and medicinal virtues, of the ſubject, are generally found concentrated.

7. In ſome vegetables, the whole medicinal activity reſides in one principle. Thus, in ſweet almonds, the only medicinal principle is a groſs oil; in horſe-radiſh root, an eſſential oil; in jalap root, a reſin; in marſh-mallow root, a gum; in the leaves of ſorrel, an acid.

8. Others have one kind of virtue reſiding in one principle, and another in another. Thus Peruvian bark has an aſtringent reſin, and a bitter gum; wormwood, a ſtrong-flavoured eſſential oil, and a bitter gum-reſin.

9. The groſs inſipid oils and ſebaceous matters, the ſimple inſipid gums, and the ſweet and acid ſaline ſubſtances, ſeem to agree both in their medicinal qualities, and in their pharmaceutic properties.

10. But eſſential oils, reſins, and gum-reſins, differ much in different ſubjects. As eſſential oils are univerſally the principle of odour in vegetables, it is obvious that they muſt differ in this reſpect as much as the ſubjects from which they are obtained. Reſins frequently partake of the oil, and conſequently of the differences depending on it; with this farther diverſity, that the groſs reſinous part often contains other powers than thoſe which reſide in oils. Thus from wormwood a reſin may be prepared, containing not only the ſtrong ſmell and flavour, but likewiſe the whole bitterneſs of the herb; from which laſt quality the oil is entirely free. The bitter, aſtringent, purgative, and emetic virtue of vegetables, generally reſide in different ſorts of reſinous matter, either pure or blended with gummy and ſaline parts; of which kind of combinations there are many ſo intimate, that the component parts can ſcarcely be ſeparated from each other, the whole compound diſſolving almoſt equally in aqueous and ſpirituous menſtrua.

11. There are ſome ſubſtances alſo, which, from their being totally ſoluble in water, and not in ſpirit, may be eſteemed to be mere gums; but which, nevertheleſs, poſſeſs virtues never to be found in the ſimple gums. Such are the aſtringent gum called acacia, and the purgative gum extracted from aloes.

12. It is ſuppoſed that vegetables contain certain ſubtile principles different in different plants, of too great tenuity to be collected in their pure ſtate and of which oils, gums, and reſins, are only the matrices or vehicles. This inquiry, however is foreign to the purpoſes of pharmacy, which is concerned only about groſſer and more ſenſible objects. When

we obtain from an odoriferous plant an eſſential oil, containing in a ſmall compaſs the whole fragrance of a large quantity of the ſubject, our intentions are equally anſwered, whether the ſubſtance of the oil be the direct odorous matter, or whether a fragrant principle more ſubtile than itſelf is diffuſed through it. And when this oil, in long keeping, loſes its odour, and becomes a reſin, it is equal, in regard to the preſent conſiderations, whether the effect happens from the avolation of a ſubtile principle, or from a change produced in the ſubſtance of the oil itſelf.

SECT. II.

ANIMALS.

FROM the hiſtory we have already given of the vegetable kingdom, our details on animal ſubſtances may, in many particulars, be conſiderably abridged. All animals are fed on vegetables, either directly or by the intervention of other animals. No part of their ſubſtance is derived from any other ſources except water and air. The ſmall quantity of ſalt uſed by man and ſome other animals, is only neceſſary as a ſeaſoning, or as a ſtimulus to the ſtomach. As all animal matter then is derived from vegetables, we accordingly find that the former is capable of being reſolved into the ſame principles as thoſe of the latter. Thus, by repeated diſtillations, we obtain from animal ſubſtances the ſame proximate principles which we found in vegetables. But though the principles of vegetable and animal ſubſtances are fundamentally the ſame, yet theſe principles are combined in a very different manner. It is exceedingly rare that animal ſubſtances are capable of the vinous or acetous fermentations; and the putrefactive, into which they run remarkably faſt, is alſo different in ſome particulars from the putrefaction of vegetables; the ſmell is much more offenſive, in the putrefaction of animal than of vegetable ſubſtances. The putrefaction of urine is indeed accompanied with a peculiar fetor, by no means ſo intolerable as that of other animal matters: this is probably owing to the pungency derived from the volatile alkali. When analyſed by a deſtructive heat, animals afford products very different from thoſe of vegetables: the empyreumatic oil has a particular, and much more fetid odour; and the volatile ſalt, inſtead of being an acid, as it is in moſt vegetables, is found in animals to be a volatile alkali. Chemiſts have ſpoken of an acid procurable from animal ſubſtances; and indeed certain parts of animal bodies are found to yield a ſalt of this kind; but it by no means holds with animal ſubſtances in general; and though the proofs to the contrary were even concluſive, it is confeſſedly in ſo ſmall a quantity as not to deſerve any particular regard. In ſome animals, however, an acid exiſts uncombined and ready formed in their bodies. This is particularly manifeſt in ſome inſects, eſpecially ants, from which a peculiar acid is procured by boiling them in water. The ſolid parts of animal bodies, as the muſcles, teguments, tendons, cartilages, and even the bones, when boiled with water, give a gelatinous matter or *glue* reſembling the vegetable gums, but much more adheſive. We muſt, however, except the horny parts and the hair, which ſeem to be little ſoluble either in water or in the liquors of the ſtomach. The acids, the alkalies, and quicklime, are alſo found to be powerful ſolvents of animal matters. It is from the ſolid parts that the greateſt quantity of volatile alkali is obtained; it ariſes along with a very fetid empyreumatic oil, from which it is in ſome meaſure ſeparated by repeated rectifications. This ſalt is partly in a fluid, and partly in a concrete ſtate; and from its having been anciently prepared in the greateſt quantity from the horns of the hart, it has been called *ſalt* or *ſpirit of hartſhorn.* Volatile alkali is, however, procurable from all animals, and from almoſt every part of animal bodies, except fat. Though we are ſometimes able to procure fixed alkali from an animal cinder, yet it is probable that this ſalt did not make any part of the living animal, but rather proceeded from the introduction of ſome ſaline matter, incapable of being aſſimilated by the functions of the living creature.

In ſpeaking of the fluid parts of animals, we ſhould firſt examine the general fluid, or blood, from whence the reſt are ſecreted. The blood, which at firſt ſight appears to be an homogeneous fluid, is compoſed of ſeveral parts, eaſily ſeparable from each other, and which the microſcope can even perceive in its uncoagulated ſtate. On allowing it to ſtand at reſt, and to be expoſed to the air, it ſeparates into what are called the *craſſamentum* and the *ſerum.* The craſſamentum, or cruor, chiefly conſiſts of the red globules, joined together by another ſubſtance, called the coagulable lymph: the chemical properties of theſe globules are not as yet underſtood; but they ſeem to contain the greateſt quantity of the iron found in the blood. The ſerum is a yellowiſh ſub-viſcid liquor, having little ſenſible taſte or ſmell: at a heat of 156 of Farenheit, it coagulates. This coagulation of the ſerum is alſo owing to its containing a matter of the ſame nature with that in the craſſamentum, viz. the coagulable lymph: whatever, then, coagulates animal blood, produces that effect on this concreſcible part. Several cauſes and many different ſubſtances are capable of effecting this coagulation; ſuch as contact of air, heat, alcohol, mineral acid, and their combinations with earths, as alum, and ſome of the metallic ſalts. The more perfect neutral ſalts are found to prevent the coagulation, ſuch as common ſalt and nitre.

Of the fluids ſecreted from the blood, there are a great variety in men and other animals. The excrementitious and redundant fluids, afford in general the greateſt quantity of volatile alkali and empyreumatic oil; ſome of the ſecreted fluids, on a chemical analyſis, yield products in ſome degree peculiar to themſelves. Of this kind is the urine, which is found to contain in the greateſt abundance the noted ſalt formed from the phoſphoric acid and volatile alkali. The fat, too, differs from the other animal matters, in yielding by diſtillation a ſtrong acid, but no volatile alkali. There is alſo much variety in the quantity and ſtate of the combination of the ſaline and other matters in different ſecreted fluids; but for a fuller inveſtigation of this and other parts of the ſubject, we refer to the doctrines of Anatomy, Phyſiology, and Chemiſtry; with which it is more immediately connected than with the Elements of Pharmacy.

Animal oils and fats, like the groſs oils of vegetables, are not of themſelves ſoluble either in water or vinous ſpirit: but they may be united with water by the intervention of gum or mucilage. Moſt of them may be changed into ſope by fixed alkaline ſalts; and be thus rendered miſcible with ſpirit, as well as water.

The odorous matter of ſome odoriferous animal ſubſtances, as muſk, civet, caſtor, is like eſſential oil, ſoluble in ſpirit of wine, and volatile in the heat of boiling water. Carthuſer relates, that from caſtor an actual eſſential oil has been obtained in a very ſmall quantity, but of an exceedingly ſtrong diffuſive ſmell.

The veſicating matter of cantharides, and thoſe parts of ſundry animal ſubſtances in which their peculiar taſte reſides, are diſſolved by rectified ſpirit, and ſeem to have ſome analogy with reſins and gummy reſins.

The gelatinous principle of animals, like the gum of vegetables, diſſolves in water, but not in ſpirit or in oils: like gums alſo, it renders oils and fats miſcible in water into a milky liquor.

Some inſects, particularly the ant, are found to contain an acid juice, which approaches nearly to the nature of vegetable acids.

There are, however, ſundry animal juices which differ greatly, even in theſe general kinds of properties, from the correſponding ones of vegetables. Thus animal ſerum, which appears analogous to vegetable gummy juices, has this remarkable difference, that though it mixes uniformly with cold or warm water, yet on conſiderably heating the mixture, the animal-matter ſeparates from the watery fluid, and concretes into a ſolid maſs. Some phyſicians have been apprehenſive, that the heat of the body, in certain diſeaſes, might riſe to ſuch a degree, as to produce this dangerous or mortal concretion of the ſerous humours: but the heat requiſite for this effect is greater than the human body appears capable of ſuſtaining, being nearly about the middle point between the greateſt human heat commonly obſerved and that of boiling water.

The ſoft and fluid parts of animals are ſtrongly diſpoſed to run into putrefaction; they putrify much ſooner than vegetable matters; and when corrupted prove more offenſive.

This proceſs takes place, in ſome degree, in the bodies of living animals, as often as the juices ſtagnate long, or are prevented, by an obſtruction of the natural emunctories, from throwing off their more volatile and corruptible parts.

During putrefaction, a quantity of air is generated; all the humours become gradually thinner, and the fibrous parts more lax and tender. Hence the tympany, which ſucceeds the corruption of any of the viſcera, or the imprudent ſuppreſſion of dyſenteries by aſtringents; and the weakneſs and laxity of the veſſels obſervable in ſcurvies, &c.

The craſſamentum of human blood changes, by putrefaction, into a dark livid-coloured liquor; a few drops of which tinge the ſerum with a tawny hue, like the ichor of ſores and dyſenteric fluxes.

Putrid craſſamentum alſo changes a large quantity of recent urine to a flame-coloured water, ſo common in fevers, and in the ſcurvy This mixture, after ſtanding an hour or two, gathers a cloud reſembling what is ſeen in the crude water of acute diſtempers, with ſome oily matter on the ſurface, like the ſcum which floats on ſcorbutic urine.

The ſerum of the blood depoſite, in putrefaction, a ſediment reſembling a well-digeſted pus, and changes to a faint olive green. A ſerum ſo far putrefied as to become green is perhaps never to be ſeen in the veſſels of living animals; but in dead bodies this ſerum is to be diſtinguiſhed by the green colour which the fleſh acquires in corrupting. In ſalted meats this is commonly aſcribed to the brine, but erroneouſly; for that has no power of giving this colour, but only of qualifying the taſte, and in ſome degree, the ill effects of corrupting aliments. In foul ulcers and other ſores, where the ſerum is left to ſtagnate long, the matter is likewiſe found of this colour, and is then always acrimonious.

The putrefaction of animal ſubſtances is prevented or retarded by moſt ſaline matters, even by the fixed and volatile alkaline ſalts, which have generally been ſuppoſed to produce a contrary effect. Of all the ſalts that have been tried, ſea ſalt ſeems to reſiſt putrefaction the leaſt: in ſmall quantities, it even accelerates the proceſs. The vegetable bitters, as chamomile flowers, are much ſtronger antiſeptics, not only preſerving fleſh long uncorrupted, but likewiſe ſomewhat correcting it when putrid: the mineral acids have this laſt effect in a more remarkable degree. Vinous ſpirits, aromatic and warm ſubſtances, and the acrid plants, falſely called *alkaleſcent*, as ſcurvy graſs and horſe-radiſh, are found alſo to reſiſt putrefaction. Sugar and camphor are found to be powerfully antiſeptic. Fixed air, or the aërial acid, is likewiſe thought to reſiſt putrefaction; but above all, the nitrous air is found to be the moſt effectual in preſerving animal bodies from corruption. The liſt of the ſeptics, or of thoſe ſubſtances that promote putrefaction, is very ſhort; and ſuch a property has only been diſcovered in calcareous earths and magneſia, and a very few ſalts, which have theſe earths for their baſes.

It is obſervable, that notwithſtanding the ſtrong tendency of animal matters to putrefaction, yet broths made from them, with the admixture of vegetables, inſtead of putrefying, turn ſour. Sir John Pringle has found, that animal fleſh in ſubſtance, beaten up with bread or other farinaceous vegetables and a proper quantity of water, into the conſiſtence of a pap, and kept in a heat equal to that of the human body, grows in a little time ſour; while the vegetable matters, without the fleſh ſuffer no ſuch change.

It was obſerved in the preceding ſection, that ſome few vegetables in the reſolution of them by fire, diſcover ſome agreement, in their matter, with bodies of the animal kingdom; yielding a volatile alkaline ſalt in conſiderable quantity, with little or no acid, or fixed alkali, which the generality of vegetables afford. In animal ſubſtances alſo, there are ſome exceptions to the general analyſis; from animal fats, as we before obſerved, inſtead of a volatile alkali, an acid liquor is obtained; and their empyreumatic oil wants the peculiar offenſiveneſs of the other animal-oils.

SECT. III.

MINERALS.

I. OILS and BITUMENS.

IN the mineral kingdom is found a fluid oil called *naphtha* or *petroleum*, floating on the ſurface of waters, or iſſuing from clefts of rocks, particularly in the eaſtern countries, of a ſtrong ſmell very different from that of vegetable or animal oils, almoſt as limpid as water, highly inflammable, not ſoluble in ſpirit of wine, and more averſe to union with water than any other oils.

There are different ſorts of theſe mineral oils, more or leſs tinged, of a more or leſs agreeable, and a ſtronger or weaker ſmell. By the admixture of concentrated acids, which raiſe no great heat or conflict with them, they become thick, and at length conſiſtent; and in theſe ſtates are called *bitumens*.

Theſe thickened or concreted oils, like the correſponding products of the vegetable kingdom, are generally ſoluble in ſpirit of wine, but much more difficultly, more ſparingly, and for the moſt part only partially; they liquefy by heat, but require the heat to be conſiderably ſtronger than vegetable products. Their ſmells are various; but all of them, either in the natural ſtate, when melted or ſet on fire, yield a peculiar kind of ſtrong ſcent, called from them *bituminous*.

The ſolid bitumens are, amber, jet, aſphaltum, or bitumen of Judea, and foſſil or pit coal. All theſe bitumens when diſtilled, give out an odorous phlegm, or water, more or leſs coloured and ſaline; an acid, frequently in a concrete ſtate; an oil, at firſt reſembling the native petrolea, but ſoon becoming heavier and thicker; and laſtly, a quantity of volatile alkali is obtained; the reſiduum is a charry matter, differing in its appearances according to the nature of the bitumen which had been analyſed.

From the obſervations of ſeveral naturaliſts, it is probable that all bitumens are of vegetable and animal origin; that the circumſtances by which they differ from the reſinous and other oily matters of vegetables and animals, are the natural effects of time, or of an alteration produced on them by mineral acids; or perhaps they are the effect of both theſe cauſes combined. This opinion is the more probable, ſince bitumens, on a chemical analyſis, yield oil and volatile alkali; neither of which are found in any other minerals.

II. EARTHS.

Under the mineral earths are included ſtones; theſe being no other than earths in an indurated ſtate.—The different kinds of theſe bodies hitherto taken notice of, are the following.

1. *Earths ſoluble in the nitrous, muriatic, and vegetable acids, but not at all or exceedingly ſparingly in the vitriolic acid. When previouſly diſſolved in other acids, they are precipitated by the addition of this laſt, which thus*

unites with them into inſipid, or nearly inſipid concretes, ſcarcely, or ſometimes not ſoluble in water.

Of this kind are:

1. The mineral calcareous earth: *diſtinguiſhed by its being convertible in a ſtrong fire without addition, into an acrimonious calx called quicklime.* This earth occurs in a variety of forms in the mineral kingdom. The fine ſoft chalk, the coarſer lime-ſtones, the hard marbles, the tranſparent ſpars, the earthy matter contained in waters, and which ſeparating from them, incruſtates the ſides of the caverns, or hangs like iſicles from the top, receiving from its different appearances different appellations. How ſtrongly ſoever ſome of theſe bodies have been recommended for particular medicinal purpoſes, they are only fundamentally different forms of this calcareous earth; ſimple pulveriſation depriving them of the ſuperficial characters by which they were diſtinguiſhed in the maſs. Moſt of them generally contain a greater or leſs admixture of ſome of the indiſſoluble kinds of earths; which, however, affects their medicinal qualities no otherwiſe than by the addition which it makes to their bulk. Chalk appears to be one of the pureſt; and is therefore in general preferred. They all burn into a ſtrong quicklime: in this ſtate a part of them diſſolves in water, which thus becomes impregnated with the aſtringent and lithontriptic powers that have been erroneouſly aſcribed to ſome of the earths in their natural ſtate.

During the calcination of calcareous earths, a large quantity of elaſtic vapour is diſcharged: the abſence of this fluid is the cauſe of the cauſticity of quicklime, and of its ſolubility in water in the form of lime-water. For a more full account of this ſubject, ſee the articles FIXED AIR, LIME-WATER, and CAUSTIC LEY.

2. The animal calcareous earth: *burning into quicklime like the mineral.* Of this kind are oyſter-ſhells, and all the marine ſhells that have been examined; though with ſome variation in the ſtrength of the quicklime produced from them.

3. Ponderous earth, called alſo Barytes; *diſtinguiſhable from the former by ſuperior ſpecific gravity, being about twice the weight of an equal bulk of Lime.* The nature of this kind of earth has not been long known, and it was not received into the liſt of the materia medica till the laſt edition of the Edinburgh pharmacopœia. For its peculiarities and habitudes ſee the article BARYTES.

II. *Earths ſoluble with eaſe in the vitriolic as well as other acids, and yielding, in all other combinations therewith, ſaline concretes ſoluble in water.*

1. Magneſia alba: *compoſing with the vitriolic acid a bitter purgative ſalt.* This earth has not yet been found naturally in a pure ſtate. It is obtained from the purging mineral waters and their ſalts; from the bitter liquor which remains after the cryſtalliſation of ſea-ſalt from ſea-water; from the fluid which remains uncryſtalliſed in the putrefaction of ſome ſorts of rough nitre. It alſo occurs in mixture with other earths, in different ſtones, as in ſope rock and others.

2. Aluminous earth: *compoſing with the vitriolic acid a very aſtringent ſalt.* This earth has been ſeldom found naturally pure. It is obtained

from alum; which is no other than a combination of it with the vitriolic acid.

III. *Earths which by digeſtion with acids are not at all diſſolved.*

1. Cryſtaline earths: *naturally hard, ſo as to ſtrike fire with ſteel; becoming friable in a ſtrong fire.* Of this kind are flints, cryſtals, &c. which appear to conſiſt of one and the ſame earth, differing in the purity, hardneſs, and tranſparency of the maſs.

2. Talky earth: *not ſtriking fire with ſteel. and ſcarcely alterable by a vehement fire* The maſſes of this earth are generally of a fibrous or leafy texture; more or leſs pellucid, bright or glittering, ſmooth and unctuous to the touch: too flexible and elaſtic to be eaſily pulveriſed; and ſoft, ſo as to be cut with a knife.

III. METALS.

Of metals, the next diviſion of mineral bodies, the moſt obvious characters are, their peculiar brightneſs, perfect opacity, and great weight; the lighteſt of them is ſeven, and the heavieſt upwards of nineteen times heavier than an equal bulk of water.

To underſtand the writers in chemiſtry, it is proper to be informed that metals are divided into the *perfect*, the *imperfect*, and the *ſemi-metals.*

Thoſe poſſeſſed of ductility and malleability, and which are not ſenſibly altered by very violent degrees of heat, are called *perfect metals:* Of theſe there are three; gold, ſilver, and platina. It is, however, probable, that the mark of their indeſtructibility by fire is only relative: and indeed, modern chemiſts have been able, by a very intenſe degree of heat to bring gold into the ſtate of a *calx*, or ſomething very nearly reſembling it.

Thoſe metallic ſubſtances which poſſeſs the diſtinctive properties of the perfect metals, but in a leſs degree, are called the *imperfect metals:* Theſe are, copper, iron, tin, and lead.

Laſtly, thoſe bodies having the metallic characters in the moſt imperfect ſtate, that is to ſay, thoſe which have no ductility and the leaſt fixity in the fire, are diſtinguiſhed by the name of *ſemi-metals:* Theſe are, antimony, biſmuth, zinc, cobalt, nickel, manganeſe, and arſenic; which laſt might be rather conſidered as the boundary between the metallic and the ſaline bodies.

Mercury has been generally ranked in a claſs by itſelf.

All metallic bodies, when heated in cloſe veſſels, melt or *fuſe.* This *fuſion* takes place at different degrees of heat in different metals; and it does not appear that this proceſs produces any change in the metals, provided it be conducted in cloſe veſſels. Metals, expoſed to the combined action of air and fire, are converted into earth-like ſubſtances called *calces:* by this proceſs, called *calcination*, the metal ſuffers remarkable changes. From the diſtinctive marks we have before given of the metallic bodies, it will be obvious, that the perfect metals are moſt ſlowly, the imperfect more quickly, and the ſemi-metals moſt eaſily and ſooneſt, affected in this operation. This earth-like powder, or *calx*, is found to poſſeſs no metallic aſpect, but is conſiderably heavier than the metal before its calcination: it has no longer any affinity with metallic bodies, nor even with the metal from which it has been produced.

Beſides this method of calcining metals by air and fire, they may likewiſe be brought into the ſtate of a calx, by diſſolving them in acids, from which they may be afterwards freed by evaporating the acid, or by adding to the ſolution an alkaline ſalt. Metals may be alſo calcined by detonation with nitre. This change in their obvious properties is generally accompanied with a remarkable alteration in their medicinal virtues: thus quickſilver, taken into the body in its crude ſtate and undivided, ſeems inactive, but proves, when calcined by fire, even in ſmall dozes, a ſtrong emetic and cathartic, and in ſmaller ones, a powerful alterative in chronical diſorders; while regulus of antimony, on the contrary, is changed by the ſame treatment, from a high degree of virulence to a ſtate of inactivity.

Calces of mercury and arſenic exhale in a heat below ignition: thoſe of lead and biſmuth, in a red or low white heat run into a tranſparent glaſs; the others are not at all vitreſcible, or not without extreme vehemence of fire. Both the calces and glaſſes recover their metallic form and qualities again by the ſkilful addition of ſome inflammable ſubſtance. This recovery of the metallic calces into the metallic form is called *reduction.* During this proceſs an elaſtic aerial fluid eſcapes, which is found to be *pure air*, either in a ſeparate ſtate, or combined with the inflammable ſubſtances added to reduce the calx.

The converſion of metals into calces is owing to the abſorption of pure air; and the reduction to the extrication of pure air.

All metallic bodies diſſolve in acids; ſome only in particular acids, ſome only in compoſitions of acids, as gold in a mixture of the nitrous and marine; and others, in all acids. Moſt of them are more ſoluble in acids in the form of calx, than in their pure metallic form. Some likewiſe diſſolve in alkaline liquors, as copper; and others, as lead, in expreſſed oils. Fuſed with a compoſition of ſulphur and fixed alkaline ſalt, moſt of them are ſoluble in water.

All metallic ſubſtances, diſſolved in ſaline liquors, have powerful effects in the human body, though many of them appear in their pure ſtate to be inactive. Their activity is generally in proportion to the quantity of acid combined with them: Thus lead, which in its crude form has no ſenſible effect, when united with a ſmall portion of vegetable acid into ceruſs, diſcovers a low degree of the ſtyptic and malignant quality, which it ſo ſtrongly exerts when blended with a larger quantity of the ſame acid in what was called *ſaccharum ſaturni*, but now more properly *plumbum acetatum*: and thus mercury, with a certain quantity of the muriatic acid, forms the violent corroſive ſublimate, which by diminiſhing the proportion of acid, becomes the milder medicine called *mercurius dulcis*.

IV. Acids.

The acids of this order are very numerous; but as we are at preſent treating of *Minerals*, we ſhall therefore confine ourſelves to the *mineral* or *foſſil* acids.

Theſe are diſtinguiſhed by the names of the concretes from which they have been principally extracted; *vitriolic* from vitriol, the *nitrous* from nitre or ſaltpetre; and the *marine* or *muriatic* from common ſea-ſalt. They are generally in the form of a watery fluid: They have all a remarkable attraction for water, and imbibe the humidity of the air with rapidity and the generation of heat. Although heat be produced by their union with water, yet when mixed with ice in a certain manner, they generate a great degree of cold. Acids change the purple and blue colours of vegetables to a red: they reſiſt fermentation; and laſtly, they impreſs that peculiar ſenſation on the tongue called *ſourneſs*, and which their name imports. But it is to be obſerved, that they are all highly corroſive, inſomuch as not to be ſafely touched, unleſs largely diluted with water, or united with ſuch ſubſtances as obtund or ſuppreſs their acidity. Mixed haſtily with vinous ſpirits, they raiſe a violent ebullition and heat, accompanied with a copious diſcharge of noxious fumes: a part of the acid unites intimately with the vinous ſpirit into a new compound, void of acidity, called *dulcified ſpirit* or *Æther*. It is obſervable, that the muriatic acid is much leſs diſpoſed to this union with ſpirit of wine than either of the other two; nevertheleſs, many of the compound ſalts reſulting from the combination of earthy and metallic bodies with this acid, are ſoluble in ſpirit, while thoſe with the other acids are not. All theſe acids effervesce ſtrongly with mild alkaline ſalts both fixed and volatile, and form with them neutral ſalts; that is, ſuch as diſcover no marks either of an acid or alkaline quality.

The nitrous and muriatic acids are obtained in the form of a thin liquor; the acid part being blended with a large proportion of water, without which it would be diffuſed into an incoercible vapour: the vitriolic ſtands in need of ſo much leſs water for its condenſation as to aſſume commonly an oily conſiſtence (whence its former name, *oil of vitriol*), and in ſome circumſtances even a ſolid one. Alkaline ſalts, and the ſoluble earths and metals, abſorb from the acid liquors only the pure acid part: ſo that the water may now be evaporated by heat, and the compound ſalt left in a dry form.

From the coalition of the different acids with the three different alkalies, and with the ſeveral ſoluble earths and metallic bodies, reſult a variety of ſaline compounds: the principal of which ſhall be particulariſed in the ſequel of this work.

The vitriolic acid, in its concentrated liquid ſtate, is much more ponderous than the other two; it emits no viſible vapour in the heat of the atmoſphere, but imbibes moiſture which increaſes its weight: the nitrous and muriatic emit copious corroſive fumes; the nitrous yellowiſh red, and the muriatic white ones. If bottles containing the three acids be ſtopt with cork, the cork is tinged black with the vitriolic, corroded into a yellow ſubſtance by the nitrous, and into a whitiſh one by the muriatic.

It is above laid down as a character of one of the claſſes of earths, that the vitriolic acid precipitates them when they are previouſly diſſolved in any other acid: it is obvious that on the ſame principle this particular acid may be diſtinguiſhed from all others. This character ſerves not only for the acid in its pure ſtate, but likewiſe for all its combinations that are ſoluble in water. If a ſolution of any compound ſalt, whoſe acid is the vitriolic, be added to a ſolution of chalk in any other acid, the vitriolic acid will part from the ſubſtance with which it was before combined, and join itſelf to the chalk, forming therewith a compound; which, being no longer ſoluble in the liquor, renders the whole milky at firſt, but by ſtanding a ſhort while the new compound gradually ſubſides. The ſame phenomenon occurs in a much more evident manner if, inſtead of a ſolution of chalk, we uſe a ſolution of Barytes.

The nitrous acid alſo, with whatever kind of body it be combined, is both diſtinguiſhed and extricated if any inflammable ſubſtance be brought to a ſtate of ignition with it. If the ſubject be mixed with a little powdered charcoal and made red hot, a deflagration or fulmination enſues; that is, a bright flame with a hiſſing noiſe; and the inflammable matter and the acid being thus conſumed or diſſipated together, there remains only the ſubſtance which was before combined with the acid, and the ſmall quantity of aſhes afforded by the coal.

This property of the nitrous acid deflagrating with inflammable ſubſtances ſerves not only as a criterion of the acid in various forms and diſguiſes, but likewiſe for diſcovering inflammable matter in bodies, when its quantity is too ſmall to be ſenſible on other trials.

All theſe acids will be more particularly examined when we come to treat of each of them apart. There are, however, a few other mineral acids which are of importance to be known; theſe are *aqua regia; acid of borax; ſparry acid;* and laſtly *fixed air*, which has of late been called *aerial acid, acid of chalk*, and *carbonic acid*.

Aqua regia has been generally prepared by a mixture of certain proportions of the nitrous and muriatic acids. It is of little avail in pharmacy whether we conſider it as a diſtinct acid, or only as a modification of the muriatic. It has been found, that the muriatic acid when diſtilled with *manganeſe*, ſuffers a change which renders it capable of diſſolving gold and platina; this change is produced by the acid acquiring a redundance of pure air. This experiment, however, renders it probable, that the nitrous acid in the common aqua regia, is only ſubſervient to accompliſhing the ſame change in the muriatic acid, which is produced by diſtilling that acid with manganeſe.

As aqua regia has been only uſed in the nicer operations in chemiſtry, and in the art of aſſaying, we think it unneceſſary to ſay more of it in this place.

The *acid of borax*, or *ſedative ſalt of Homberg*, may be extracted from borax, a neutral ſalt, whoſe baſe is mineral alkali. It has alſo been found native in the waters of ſeveral lakes in Tuſcany. It is a light, cryſtallized concrete ſalt: its taſte is ſenſibly acid; it is difficultly ſoluble in water; but the ſolution changes blue vegetable colours to a red. With vitreſcent earths, it fuſes into a white glaſs: it unites with the other alkalies, with magneſia, and with quicklime. The ſalts reſulting from theſe combinations are very imperfectly known. The ſalt has been called *ſedative*, from its ſuppoſed virtues as an anodyne and refrigerant remedy; but modern phyſicians have very little faith in this once celebrated drug.

The *ſparry acid* is ſo called, from its being extracted from a foſſil called *ſparry fluor*, or *vitreous ſpar*. As it has not yet been employed for any purpoſe in pharmacy, we think it would be improper to attempt any farther account of it here.

Beſides the acids above mentioned, there have alſo been diſcovered acids ſeemingly of a peculiar nature, in amber, in arſenic, and other minerals: but as theſe have not hitherto been applied to any uſe in pharmacy, they cannot properly have a place in this work.

We now come to the laſt, but perhaps the moſt generally diffuſed, acid in nature: this is the aërial acid, or

Fixed Air.

In our pharmaceutical hiſtory of this body, we ſhall only uſe the name *fixed air* originally given to it by its inventor Dr Black. It has received many different names, according to the ſubſtances from which it is diſengaged, and to the different opinions concerning its nature: it is the *gas ſilveſtre* of Helmont, the *acid of chalk*, *calcareous gas*, *mephitic gas*, *mephitic acid*, *aërial acid*, and *carbonic acid*, of modern chemiſts. In accommodating our account of it to the purpoſes of pharmacy, it is moſt convenient to conſider it as an acid. It may be extricated by heat, or by other acids, from all calcareous earths; that is, from all thoſe earths which by calcination are converted into quicklime; ſuch as chalks, marble, limeſtone, ſea-ſhells, &c. It is likewiſe extricated from mild, fixed, and volatile alkalies, and from magneſia. Thus, if the vitriolic, or almoſt any other acid, be added to a quantity of calcareous earth or mild alkali, a briſk efferveſcence immediately enſues; the fixed air is diſcharged in bubbles: and the other acid takes its place. If this proceſs be conducted with an apparatus to be afterwards deſcribed, the fixed air ſeparated from the calcareous earth, may be received and preſerved in cloſe veſſels. When thus diſengaged it aſſumes its real character, viz. that of a *permanently elaſtic fluid*. Fixed air is alſo ſeparated in great quantity during the vinous fermentation of vegetable matters. When a calcareous earth is deprived of this acid by heat, it is converted into the cauſtic ſubſtance *quicklime*. When alkalies, fixed or volatile, are deprived of it, they are rendered cauſtic, incapable of cryſtalliſation, or of efferveſcing with other acids. They are alſo in this *deaërated* ſtate much more powerful in diſſolving other bodies. By recombining this acid with quicklime, calcined magneſia, or cauſtic alkali, theſe ſubſtances again aſſume their former weight and properties. When theſe bodies are combined with fixed air they are called *mild;* as *mild calcareous earth*, *mild alkali*, &c. And when deprived of this acid, they are called *cauſtic*; as *cauſtic calcareous earth*, *cauſtic alkali*, &c. But as magneſia is not rendered cauſtic by calcination, it would perhaps be more proper to call them *aërated* and *deaërated*. Fixed air is more diſpoſed to unite with barytes and calcareous earth than with any other ſubſtance ; next to theſe it has the ſtrongeſt attraction for fixed alkali, then for magneſia, and laſtly for volatile alkali. We ſhall afterwards find that theſe relative powers of the different ſubſtances to unite with it lay the foundation of many important proceſſes in pharmacy.

When we pour a ſmall quantity of this acid into lime-water, the liquor inſtantly aſſumes a white colour, and the lime gradually precipitates, leaving the water clear and taſteleſs : the lime in this experiment abſorbed the acid, and has therefore become *mild* or *aërated* calcareous earth. This acid is capable of being abſorbed by water; and the water thus impregnated, precipitates lime into lime-water: but if a certain larger quantity of this impregnated water be added, the lime is rediſſolved, and the liquor recovers its tranſparency. Water impregnated with it is capable of diſſolving iron ; and in this way are formed native and artificial chalybeate waters. Zinc is alſo ſoluble in the ſame liquor. This acid is eaſily expelled from the water by boiling, and even by time alone, if the veſſel be not kept cloſe ſhut. Fixed air extinguiſhes flame and animal life, and ought therefore to be cautiouſly managed: like other acids, it changes the blue colours of vegetables to a red, and communicates an acidulous taſte to the water impregnated with it.

From theſe ſeveral facts, it will appear obvious, that *mild* or *effervescing alkalies*, whether fixed or volatile, are really neutral ſalts, compounded of this acid and pure alkali : like other acids it unites with theſe bodies, diminiſhes their cauſticity, and effects their cryſtalliſation. In ſpeaking, therefore, of *pure alkali*, we ought to confine ourſelves to thoſe in the *cauſtic* or *de-aërated* ſtate. Many other properties of this acid might be mentioned, but we have noticed all thoſe which we thought were concerned in the buſineſs of pharmacy. We ſhall have occaſion to recur to the ſubject when we come to the preparation of ſeveral compound drugs.

Let us next take a view of what paſſes in the combinations of acids with different ſubſtances.

If a fixed alkaline ſalt be united with a vegetable acid, as vinegar, and formed into a neutral ſalt, on adding to this compound ſome muriatic acid, the acetous acid will be diſengaged, ſo as to exhale totally in a moderate heat, leaving the muriatic in poſſeſſion of the alkali : the addition of the nitrous will in like manner diſpoſſeſs the muriatic, which now ariſes in its proper white fumes, though without ſuch an addition it could not be extricated from the alkali by any degree of heat ; on the addition of the vitriolic acid, the nitrous gives way in its turn, exhaling in red fumes, and leaving only the vitriolic acid and the alkali united together.

Again, if any metallic body be diſſolved in an acid, the addition of any earthy body that is diſſoluble in that acid will precipitate the metal: a volatile alkaline ſalt will in like manner precipitate the earth : a fixed alkali will diſlodge the volatile : and the remaining ſalt will be the ſame as if the acid and fixed alkali had been joined together at firſt, without the intervention of any of the other bodies.

The power of bodies, on which theſe various tranſpoſitions and combinations depend, is called by the chemiſts *affinity* or *elective attraction;* a term, like the Newtonian *attraction*, deſigned not to expreſs the cauſe, but the effect. When an acid ſpontaneouſly quits a metal to unite with an alkali, they ſay *it has a greater attraction* for the alkali than for the metal: and when on the contrary, they ſay it has a greater attraction for fixed alkali than for the volatile, they mean only that it will unite with the fixed in preference to the volatile; and that if previouſly united with a volatile alkali, it will forſake this for a fixed one.

The doctrine of the attractions of bodies is of a very extenſive uſe in chemical pharmacy: many of the officinal proceſſes, as we ſhall ſee hereafter, are founded on it: ſeveral of the preparations turn out very different from what would be expected by a perſon unacquainted with theſe properties of bodies; and if any of them, from an error in the proceſs, or other cauſes, prove unfit for the uſe intended, they may be rendered applicable to other purpoſes, by ſuch tranſpoſitions of their component parts as are pointed out by the knowledge of their attractions.

We ſhall therefore ſubjoin a table of the principal attractions obſerved in pharmaceutical operations, formed from that of the famous Bergman.

The table is to be thus underſtood. The ſubſtance printed in capitals on the top of each ſeries, has the greateſt attraction for that immediately under it, a leſs attraction for the next, and ſo on to the end of the ſeries: that is, if any of the remote bodies has been combined with the top one, the addition of any of the intermediate bodies will diſunite them; the intermediate body uniting with the uppermoſt body of the ſeries, and throwing out the remote one. Thus, in the firſt column of the vitriolic acid, a fixed alkali being placed between the acid and iron, it is to be concluded, that wherever vitriolic acid and iron are mixed together, the addition of any fixed alkaline ſalt will unite with the acid, and occaſion the iron to be ſeparated. Where ſeveral ſubſtances are expreſſed in one ſeries, it is to be underſtood, that any of thoſe bodies which are nearer to the uppermoſt, will in like manner diſengage from it any of thoſe which are more remote.

TABLE OF SINGLE ATTRACTIONS.

BY WATER.

VITRIOLIC ACID.	NITROUS ACID.	MURIATIC ACID.	AQUA REGIA.
Barytes,	Vegetable alkali,	Vegetable alkali,	Vegetable alkali,
Vegetable alkali,	Foſſil alkali,	Foſſil alkali,	Foſſil alkali,
Foſſil alkali,	Barytes,	Barytes,	Barytes,
Lime,	Lime,	Lime,	Lime,
Magneſia.	Magneſia,	Magneſia,	Magneſia,
Volatile alkali,	Volatile alkali,	Volatile alkali,	Volatile alkali,
Clay,	Clay,	Clay,	Clay,
Zinc,	Zinc,	Zinc,	Zinc,
Iron,	Iron,	Iron,	Iron,
Lead,	Lead,	Lead,	Lead,
Tin,	Tin,	Tin,	Tin,
Copper,	Copper,	Copper,	Copper,
Antimony,	Antimony,	Antimony,	Antimony,
Arſenic,	Arſenic,	Arſenic,	Arſenic,
Mercury,	Mercury,	Mercury,	Mercury;
Silver,	Silver,	Silver,	Silver,
Gold,	Gold,	Gold,	Gold,
Water,	Water,	Water,	Water,
Alkohol.	Alkohol.	Alkohol.	Alkohol.

BY FIRE.

Vegetable alkali,	Barytes,	Barytes,	Barytes,
Foſſil alkali,	Vegetable alkali,	Vegetable alkali,	Vegetable alkali,
Barytes,	Foſſil alkali,	Foſſil alkali,	Foſſil alkali,
Lime,	Lime,	Lime,	Lime,
Magneſia,	Magneſia,	Magneſia,	Magneſia,
Metals,	Metals,	Metals,	Metals,
Volatile alkali,	Volatile alkali,	Volatile alkali,	Volatile alkali,
Clay.	Clay.	Clay.	Clay.

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

ACID OF BORAX.	ACID OF SUGAR.	ACID OF TARTAR.	ACID OF SORREL.
Lime,	Lime,	Lime,	Lime,
Barytes,	Barytes,	Barytes,	Barytes,
Magneſia,	Magneſia,	Magneſia,	Magneſia,
Vegetable alkali,	Vegetable alkali,	Vegetable alkali,	Vegetable alkali,
Foſſil alkali,	Foſſil alkali,	Foſſil alkali,	Foſſil alkali,
Volatile alkali,	Volatile alkali.	Volatile alkali,	Volatile alkali,
Clay,	Clay,	Clay,	Clay,
Zinc,	Zinc,	Zinc,	Zinc,
Iron,	Iron,	Iron,	Iron,
Lead,	Lead,	Lead,	Lead,
Tin,	Tin,	Tin,	Tin,
Copper,	Copper,	Copper,	Copper,
Antimony,	Antimony,	Antimony,	Antimony,
Arſenic,	Arſenic,	Arſenic,	Arſenic,
Mercury,	Mercury,	Mercury,	Mercury,
Silver,	Silver,	Silver,	Silver,
Gold,	Gold,	Gold,	Gold,
Water,	Water,	Water,	Water,
Alkohol.	Alkohol.	Alkohol.	Alkohol.

BY FIRE.

Lime, Barytes, Magneſia, Vegetable alkali, Foſſil alkali, Metals, Volatile alkali, Clay.			

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

ACID OF LEMON.	ACETOUS ACID.	ACID OF PHOSPHORUS.	AERIAL ACID.
Lime,	Barytes,	Lime,	Barytes,
Barytes,	Vegetable alkali,	Barytes,	Lime,
Magneſia,	Foſſil alkali,	Magneſia,	Vegetable alkali,
Vegetable alkali,	Volatile alkali,	Vegetable alkali,	Foſſil alkali,
Foſſil alkali,	Lime,	Foſſil alkali,	Magneſia,
Volatile alkali,	Magneſia,	Volatile alkali,	Volatile alkali,
Clay,	Clay,	Clay,	Clay,
Zinc,	Zinc,	Zinc,	Zinc,
Iron,	Iron,	Iron,	Iron,
Lead,	Lead,	Lead,	Lead,
Tin,	Tin,	Tin,	Tin,
Copper,	Copper,	Copper,	Copper,
Antimony,	Antimony,	Antimony,	Antimony,
Arſenic,	Arſenic,	Arſenic,	Arſenic,
Mercury,	Mercury,	Mercury,	Mercury,
Silver,	Silver,	Silver,	Silver,
Gold,	Gold,	Gold,	Gold,
Water,	Water,	Water.	Water.
Alkohol.	Alkohol.		

BY FIRE.

	Barytes,	Lime,	
	Vegetable alkali,	Barytes,	
	Foſſil alkali,	Magneſia,	
	Lime,	Vegetable alkali,	
	Magneſia,	Foſſil alkali,	
	Metals,	Metals,	
	Volatile alkali,	Volatile alkali,	
	Clay.	Clay.	

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

VEGETABLE ALKALI.	FOSSIL ALKALI.	VOLATILE ALKALI.	BARYTES.
Vitriolic acid,	Vitriolic acid,	Vitriolic acid,	Vitriolic acid,
Nitrous acid,	Nitrous acid,	Nitrous acid,	Acid of ſugar,
Muriatic acid,	Muriatic acid,	Muriatic acid,	Acid of ſorrel,
Phoſphoric acid,	Phoſphoric acid,	Phoſphoric acid,	Phoſphoric acid,
Acid of ſugar,	Acid of ſugar,	Acid of ſugar,	Nitrous acid,
Acid of tartar,	Acid of tartar,	Acid of tartar,	Muriatic acid,
Acid of ſorrel,	Acid of ſorrel,	Acid of ſorrel,	Acid of lemon,
Acid of lemon,	Acid of lemon,	Acid of lemon,	Acid of tartar,
Acid of benzoin,	Acid of benzoin,	Acid of benzoin,	Acid of benzoin,
Acetous acid,	Acetous acid,	Acetous acid,	Acetous acid,
Acid of borax,	Acid of borax,	Acid of borax,	Acid of borax,
Aërial acid,	Aërial acid,	Aërial acid,	Aërial acid,
Water,	Water,	Water,	Water,
Unctuous oils,	Unctuous oils,	Unctuous oils,	Unctuous oils,
Sulphur,	Sulphur,	Sulphur,	Sulphur.
Metals.	Metals.	Metals.	

BY FIRE.

Phoſphoric acid,	Phoſphoric acid,	Vitriolic acid,	Phoſphoric acid,
Acid of borax.	Acid of borax,	Nitrous acid,	Acid of borax,
Vitriolic acid,	Vitriolic acid,	Muriatic acid,	Vitriolic acid,
Nitrous acid,	Nitrous acid,	Acetous acid,	Nitrous acid,
Muriatic acid,	Muriatic acid,	Barytes,	Muriatic acid,
Acetous acid,	Acetous acid,	Lime,	Acid of benzoin,
Barytes,	Barytes,	Magneſia,	Acetous acid,
Lime,	Lime,	Clay,	Fixed alkali,
Magneſia,	Magneſia,	Sulphur.	Sulphur,
Clay,	Clay,		Lead.
Sulphur.	Sulphur.		

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

LIME.	MAGNESIA.	CLAY.	WATER.
Acid of ſugar,	Acid of ſugar,	Vitriolic acid,	Vegetable alkali,
Acid of ſorrel,	Phoſphoric acid,	Nitrous acid,	Foſſil alkali,
Vitriolic acid,	Vitriolic acid,	Muriatic acid,	Volatile alkali,
Acid of tartar,	Nitrous acid,	Acid of ſugar,	Alkohol,
Phoſphoric acid,	Muriatic acid,	Acid of ſorrel,	Æther,
Nitrous acid,	Acid of ſorrel,	Acid of tartar,	Vitriolic acid,
Muriatic acid,	Acid of tartar,	Acid of lemon,	Vitriolated tartar,
Acid of lemon,	Acid of lemon,	Acid of phoſphorus,	Alum,
Acid of benzoin,	Acid of benzoin,	Acid of benzoin,	Green vitriol,
Acetous acid,	Acetous acid,	Acetous acid,	Corroſive ſublimate.
Acid of borax,	Acid of borax,	Acid of borax,	
Aërial acid,	Aërial acid,	Aërial acid.	
Water,	Sulphur.		
Unctuous oil,			
Sulphur.			

BY FIRE.

Phoſphoric acid,	Phoſphoric acid,	Phoſphoric acid,	
Acid of borax,	Acid of borax,	Acid of borax,	
Vitriolic acid,	Vitriolic acid,	Vitriolic acid,	
Nitrous acid,	Nitrous acid,	Nitrous acid,	
Muriatic acid,	Muriatic acid,	Muriatic acid,	
Fixed alkali,	Fixed alkali,	Fixed alkali,	
Sulphur,	Sulphur,	Sulphur,	
Lead.	Lead.	Lead.	

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

SULPHUR.	HEPAR SULPHURIS.	ALKOHOL.	ÆTHER.
Lead,	Gold,	Water,	Alkohol,
Tin,	Silver,	Æther,	Eſſential oils,
Silver,	Mercury,	Eſſential oils,	Expreſſed oils,
Mercury,	Arſenic,	Volatile alkali,	Water,
Arſenic,	Antimony,	Fixed alkali,	Sulphur.
Antimony,	Copper,	Hepar ſulphuris,	
Iron,	Tin,	Sulphur.	
Vegetable alkali,	Lead,		
Volatile alkali,	Iron,		
Barytes,	Alkohol,		
Lime,	Water.		
Magneſia,			
Unctuous oils,			
Eſſential oils,			
Æther,			
Alkohol.			

BY FIRE.

Fixed alkali,	Iron,		
Iron,	Copper,		
Copper,	Tin,		
Tin,	Lead,		
Lead,	Silver,		
Silver,	Antimony,		
Antimony,	Mercury,		
Mercury,	Arſenic,		
Arſenic.			

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

ESSENTIAL OILS	EXPRESSED OILS.	GOLD.	SILVER.
Æther,	Æther,	Æther,	Muriatic acid,
Alkohol,	Eſſential oils,	Muriatic acid,	Acid of ſugar,
Expreſſed oils,	Fixed alkali,	Aqua regia,	Vitriolic acid,
Fixed alkali,	Volatile alkali,	Nitrous acid,	Phoſphoric acid,
Sulphur.	Sulphur.	Vitriolic acid,	Nitrous acid,
		Acid of tartar,	Acid of tartar,
		Phoſphoric acid,	Acid of ſorrel,
		Fixed alkali,	Acid of lemon,
		Volatile alkali.	Acetous acid,
			Aërial acid,
			Volatile alkali.

BY FIRE.

		Mercury,	Lead,
		Copper,	Copper,
		Silver,	Mercury,
		Lead,	Tin,
		Tin,	Gold,
		Antimony,	Antimony,
		Iron,	Iron,
		Zinc,	Zinc,
		Arſenic,	Arſenic,
		Hepar ſulphuris.	Hepar ſulphuris,
			Sulphur.

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

MERCURY.	LEAD.	IRON.	COPPER.
Muriatic acid,	Vitriolic acid,	Acid of ſugar,	Acid of ſugar,
Acid of ſugar,	Acid of ſugar,	Acid of tartar,	Acid of tartar,
Phoſphoric acid,	Acid of tartar,	Vitriolic acid,	Muriatic acid,
Vitriolic acid,	Phoſphoric acid,	Muriatic acid,	Vitriolic acid,
Acid of tartar,	Acid of ſorrel,	Nitrous acid,	Nitrous acid,
Acid of lemon,	Muriatic acid,	Phoſphoric acid,	Phoſphoric acid,
Nitrous acid,	Nitrous acid,	Acid of ſorrel,	Acid of ſorrel,
Acetous acid,	Acid of lemon,	Acid of lemon,	Acid of lemon,
Acid of borax,	Acetous acid,	Acetous acid,	Acetous acid,
Aërial acid.	Acid of borax,	Acid of borax,	Acid of borax,
	Aërial acid.	Aërial acid.	Aërial acid,
	Fixed alkali.		Fixed alkali,
			Volatile alkali,
			Expreſſed oils.

BY FIRE.

Gold,	Gold,	Arſenic,	Gold,
Silver,	Silver,	Copper,	Silver,
Lead,	Copper,	Gold,	Arſenic,
Tin,	Mercury,	Silver,	Iron,
Zinc,	Tin,	Tin,	Zinc,
Copper,	Antimony,	Antimony,	Antimony,
Antimony,	Arſenic,	Lead,	Tin,
Arſenic,	Zinc,	Mercury,	Lead,
Iron,	Iron,	Hepar ſulphuris,	Mercury,
Hepar ſulphuris,	Hepar ſulphuris,	Sulphur.	Hepar ſulphuris,
Sulphur.	Sulphur.		Sulphur.

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

TIN.	ARSENIC.	ZINC.	ANTIMONY.
Acid of tartar,	Muriatic acid,	Acid of ſugar,	Muriatic acid,
Muriatic acid,	Acid of ſugar,	Vitriolic acid,	Acid of ſugar,
Vitriolic acid,	Vitriolic acid,	Muriatic acid,	Vitriolic acid,
Acid of ſugar,	Nitrous acid,	Nitrous acid,	Nitrous acid,
Phoſphoric acid,	Acid of tartar,	Acid of ſorrel,	Acid of tartar,
Nitrous acid,	Phoſphoric acid,	Acid of tartar,	Acid of ſorrel,
Acid of ſorrel,	Acid of ſorrel,	Phoſphoric acid,	Phoſphoric acid,
Acid of lemon,	Acid of lemon,	Acid of lemon,	Acid of lemon,
Acetous acid,	Acetous acid,	Acetous acid,	Acetous acid,
Acid of borax,	Volatile alkali,	Acid of borax,	Acid of borax,
Fixed alkali,	Unctuous oils.	Acid of borax,	Aërial acid.
Volatile alkali.		Aërial acid,	
		Volatile alkali.	

BY FIRE.

Zinc,	Copper,	Copper,	Iron,
Mercury,	Iron,	Antimony,	Copper,
Copper,	Silver,	Tin,	Tin,
Antimony,	Tin,	Mercury,	Lead,
Gold,	Lead,	Silver,	Silver,
Silver,	Gold,	Gold,	Zinc,
Lead,	Zinc,	Arſenic,	Gold,
Iron,	Antimony,	Lead,	Mercury,
Arſenic,	Hepar ſulphuris,	Iron.	Arſenic,
Hepar ſulphuris,	Sulphur.		Hepar ſulphuris,
Sulphur.			Sulphur.

CASES *of* DOUBLE ELECTIVE ATTRACTIONS.

BY WATER.

1. Epſom ſalt with Mild vegetable alkali,	Give	1. Vitriolated tartar and Common magneſia.
2. Vitriolic Ammoniac with Mild mineral alkali,		2. Mild volatile alkali and Glauber's ſalt.
3. Vitriolated tartar with Nitrous ſelenite,		3. Saltpetre and Vitriolic ſelenite.
4. Vitriolated tartar with Mercurial nitre,		4. Saltpetre and Vitriol of mercury.
5. Saltpetre with Luna cornea,		5. Cubic nitre and Lunar cauſtic.
6. Vitriolated tartar with Luna cornea,		6. Febrifugal ſalt and Vitriol of ſilver.
7. Acetated tartar with Mercurial nitre,		7. Saltpetre and Acetous mercurial ſalt.

BY HEAT.

1. Vitriolic ammoniac with Common ſalt,	Give	1. Common ſal ammoniac and Glauber's ſalt.
2. Vitriolic ammoniac, with Acetated water,		2. Acetous ammoniacal ſalt and Vitriolated tartar.
3. Vitriol of mercury with Common ſalt,		3. Corroſive ſublimate and Glauber's ſalt.
4. Crude antimony with Corroſive ſublimate,		4. Butter of antimony and Cinnabar.

CHAPTER II.

Of the Pharmaceutical Apparatus.

ONE of the principal parts of the pharmaceutic apparatus conſiſts in contrivances for containing and applying fire, and for directing and regulating its power. Of theſe contrivances called *furnaces,* there are different kinds, according to the conveniency of the place, and the particular purpoſes they are intended to anſwer. We ſhall here endeavour to give a general idea of their ſtructure, and of the principles on which they are built.

FURNACES.

THE moſt ſimple furnace is the common ſtove, otherwiſe called the furnace for OPEN FIRE. This is uſually made of an iron hoop, five or ſix inches deep; with a grate or ſome iron bars acroſs the bottom, for ſupporting the fuel. The following conſtruction however is the moſt convenient. Fig. 1. Plate 1. It is a cylinder of plate iron about 10 or 12 inches long and about 8 or 9 in diameter, open at the top and cloſe below, and is ſupported by 4 feet. At G, about four inches from the bottom, a grate is placed, the plan of which is repreſented at C Below the grate is the aſh-pit with its door D for the admiſſion of air and taking out the aſhes. This furnace is deſigned for ſuch operations as require only a moderate heat; as infuſion, decoction, and the evaporation of liquids. The veſſel, containing the ſubject matter, is ſupported over the fire by a trevet, or by ſome bars laid over the top of the furnace.

A ſimilar cylinder, lined with ſuch materials as are capable of ſuſtaining a ſtrong fire; with a grate and aſh pit beneath, as in the preceding; and a conical dome at the top with a perpendicular pipe, or chimney; makes a WIND FURNACE. Fig. 2.

The greater the perpendicular height of the chimney, the greater will be the draught of air through the furnace, and the more intenſely will the fire burn; provided the width of the chimney is ſufficient to allow a free paſſage to all the air that the furnace can receive through the grate; for which purpoſe the area of the aperture of the chimney ſhould be half the area of the grate.

As the intenſity of the fire depends wholly upon the quantity of air ſucceſſively paſſing through and animating the burning fuel, it is obvious, that the moſt vehement fire may be ſuppreſſed or reſtrained at pleaſure, by cloſing more or leſs either the aſh pit door by which the air is admitted, or the chimney by which it paſſes off; and that the fire may be more or leſs raiſed again, by more or leſs opening thoſe paſſages. A moveable plate, or REGISTER, in any convenient part of the chimney, affords commodious means of varying the width of the paſſage, and conſequently of regulating the heat. But the heat is moſt conveniently regulated by keeping the aſh-pit door entirely ſhut, and having a range of holes of different ſizes provided with proper pins, whereby we may admit as much air as we pleaſe. Theſe holes may be made to bear a certain proportion to each other; the ſmalleſt being conſidered as one, the next to it in ſize muſt have twice the opening, the next to that double of the ſecond, &c.; and ſo on to the number of ſeven or eight; and by combining theſe holes variouſly together, we can admit any quantity of air from 1 to 255; as 1. 2. 4. 8. 16. 32 64. 128. See Fig. 2. E.

There are two general kinds of theſe wind-furnaces: one, with the chimney on the top, over the middle of the furnace, (fig. 2.); the other with the chimney on one ſide, and the mouth clear, (fig. 3.)

In the firſt, either the upper part of the furnace is contracted to ſuch an aperture, that the chimney may fit upon it; or it is covered with an arched dome, or with a flat plate, having a like aperture in the middle. As in this diſpoſition of the chimney, the inſide of the furnace cannot be come at from above, a door is made in the ſide, a little above the grate, for ſupplying the fuel, inſpecting the matter in the fire, &c. Fig. 2. F.

For performing FUSIONS in this furnace, the crucible or melting veſſel, is placed immediately among the fuel, with a ſlip of a brick, or ſome other like ſupport, between it and the grate, to keep the cold air, which enters underneath, from ſtriking on its bottom.

When deſigned as a REVERBERATORY, that is for diſtillation in long-necked coated glaſs retorts, two iron bars are placed acroſs above the fire, for ſupporting the veſſel, whoſe neck comes out at an aperture made for that purpoſe in the ſide. This aperture ſhould be made in the oppoſite ſide to the door above mentioned; or at leaſt ſo remote from it, that the receiver, fitted on the neck of the diſtilling veſſel without the furnace, may not lie in the operator's way when he wants to ſtir the fire or throw in freſh fuel. Fig. 4.

When a furnace of this kind is deſigned only for a *ſand bath*, it is moſt commodious to have the ſand placed on a long iron plate, furniſhed with a ledge of free-ſtone or brick-work at each ſide. The mouth of the furnace is to be cloſely covered by one end of this plate; and the canal by which the furnace communicates with its chimney, is to be lengthened and carried along under the plate, the plate forming the upper ſide of the canal. In this kind of ſand bath, digeſtions, &c. requiring different degrees of heat, may be carried on at once; for the heat decreaſes gradually from the end over the furnace to the other, Fig. 5.

When large veſſels, as *ſtills*, are fixed in furnaces, a conſiderable part of the bottom of the veſſel is commonly made to reſt upon ſolid brick-work.

The large ſtill, whoſe bottom is narrow in proportion to its height, and whoſe weight, when charged with liquor, requires great part of it to be thus ſupported, expoſes but a ſmall ſurface to the action of the fire underneath. To make up for this diſadvantage, the heat, which riſes at the further end of a long narrow grate, is conveyed all round the ſides of the veſſel by a ſpiral canal, which communicates at top with a common chimney.

The pots for diſtilling hartſhorn and aquafortis in the larger way, have part of their great weight borne up by three ſtrong pins or trunions, at equal diſtances round the pot towards the middle, reaching into a brick-work: ſo that leſs ſupport being neceſſary underneath, a greater ſurface of the wide bottom lies expoſed to the immediate action of the fire.

If a furnace, communicating with its chimney by a lateral canal, as in the ſand furnace above-mentioned, be carried to a conſiderable height above the part where this canal enters it, and if it be filled with fuel to the top, and cloſely covered, the fuel will burn no higher than up to the upper ſide of the canal through which the air paſſes off; and in proportion as this lower part of the fuel conſumes it will be ſupplied by that above, which falls down in its place. Hence in this furnace, called an *athanor*, a conſtant heat may be kept up for a conſiderable length of time without attendance. Fig. 6.

The tower of the athanor, or that part which receives the fuel, is commonly made to widen a little downwards, that the coals may fall the more freely; but not ſo much as that the part on fire at bottom may be too ſtrongly preſſed. A ſmall aperture is made oppoſite to the canal or flue, or a number of openings according to the ſize of the furnace and the degree of heat required, for ſupplying the air which is more conveniently admitted in this manner than through the grate, as the interſtices of the grate are in time choaked up by the aſhes.

This furnace is deſigned only for heating bodies exterior to it. Its canal or flue, as in the ſand furnace already deſcribed, paſſes under a ſand-bath or water-bath; at the farther end of which, it riſes perpendicularly to ſuch a height, as may occaſion a ſufficient draught of air through the fire.

The flue may be ſo wide as to correſpond to the whole height of the fire-place. A regiſter or ſliding plate, placed between the flue and the furnace, enable us to increaſe or diminiſh this height, and conſequently the quantity of fire, at pleaſure. If the ſpace beneath the flue be incloſed to the ground, the heat in this cavity will be conſiderable enough to be applicable to ſome uſeful purpoſes.

With regard to the materials of furnaces, the fixed ones are built of bricks, cemented together by ſome good loam or clay. Any kind of loam or clayey compoſition that is of a proper degree of tenacity, which when made into a paſte with water and well worked, does not ſtick to the fingers, and which, when thoroughly dried, neither cracks nor melts in a vehement fire, is fit for this uſe. The purer and more tenacious clays require to have their tenacity leſſened by an admixture of ſand, or rather of the ſame kind of clay burnt and groſsly powdered.

Smaller portable furnaces are made of ſtrong iron and copper-plates, lined, to the thickneſs of an inch or more, with the ſame kind of clayey compoſition.

Dr Black has contrived one of the moſt ſimple and elegant furnaces with which we are yet acquainted. Beſides its durability, it will be found, though but one inſtrument, to anſwer all the purpoſes either of the practical or ſpeculative chemiſt. Plate I. Fig. 7 and 8.

EXPLANATION *of* PLATE I.

Fig. 1. A common ſtove which ſtands on feet, and is moveable from place to place.

A, The body of the ſtove.

B, Its feet.

C, The grate, which is that uſed in Dr Black's furnace, to be afterwards deſcribed, and which we would recommend as the beſt for every kind of portable furnace.

Fig. 2. A wind-furnace.

A, Its dome.

B, The door for ſupplying fuel.

C, The chimney.

D, The door of the aſh-pit.

E, The regiſter, or damping plate.

Fig. 3. A ſimilar furnace with its vent carried off to one ſide, or backward.

A, The beginning of its chimney from the back part.

B, The mouth of the furnace, ſerving as the door, and may be covered with a tile.

Fig. 4. Plan of a wind-furnace when deſigned for a reverberatory.

A, The iron bars, which cannot be ſhewn, but may very eaſily be conceived.

B, A retort ſupported on the bars.

C, The neck of the retort, coming out at an aperture of the furnace in the oppoſite ſide of the door.

Fig. 5. Plan of a wind-furnace when deſigned for a ſand-bath.

A, A long iron plate, one end of which cloſely ſhuts the mouth of the furnace.

B, A ledge of free-ſtone or brick-work.

C, the mouth of the canal.

Regiſters, &c. as in the other furnaces.

Fig. 6. An athanor.

A, The tower which has a cover at the top B when uſed.

C, The fire-place.

D, The aſh-pit.

E, E, An oblong frame of metal or ſtone connected with the tower A.

F, F, A chamber connected to the fire place C, and continued up to the chimney G. Above this chamber the reſt of the frame is lined with iron.

H, H, A cavity for holding ſand, which is heated by the long range of fire in the chamber below.

Fig. 7. and 8. Dr Black's furnace. To render our deſcription of this inſtrument as ſimple as poſſible, let the reader ſuppoſe that the body of the common ſtove, Fig. 1. is made of an oval form, and cloſed at each end by a thick iron plate. The upper plate or end of this furnace is perforated with two holes: one of theſe, A, is pretty large, and is often the mouth

PLATE I. Nº 1.

FIG. 1.

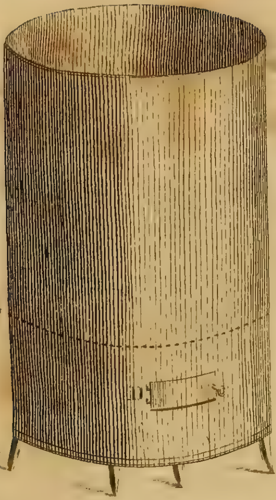


FIG. 2.

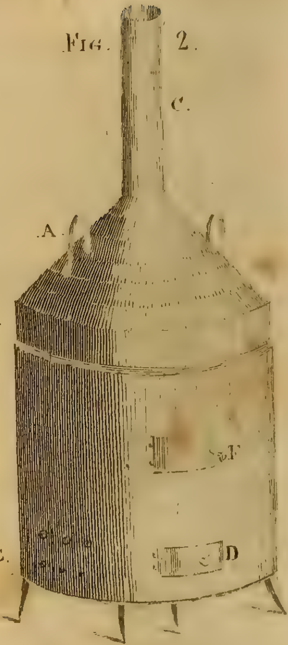


FIG. 1.

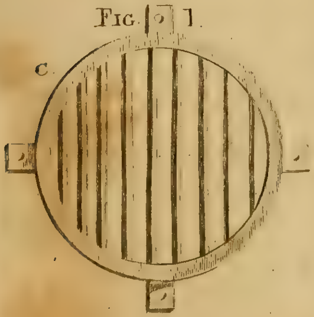


FIG. 3.

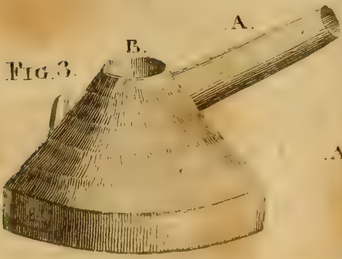


FIG. 4.

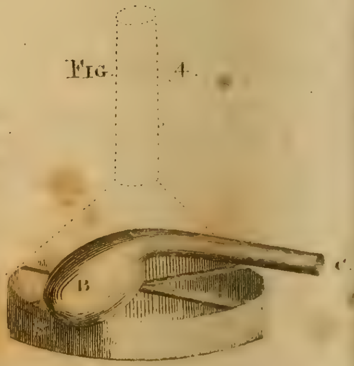


FIG. 5.

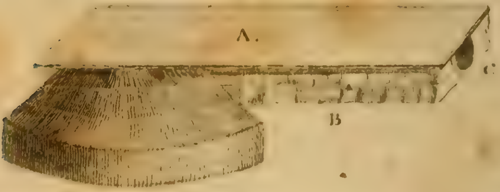


PLATE I. N°2

FIG. 6.

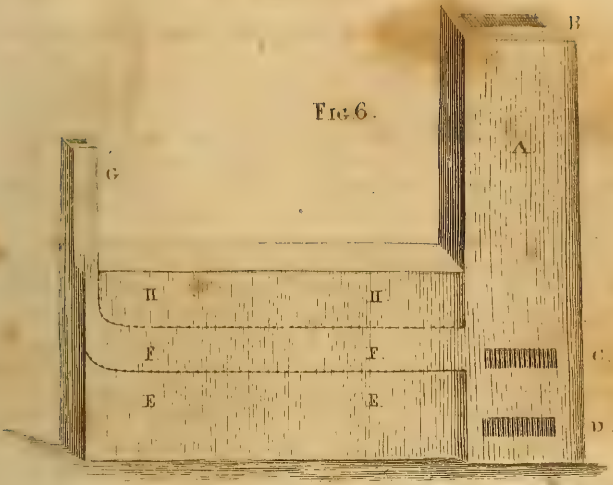


FIG. 7.

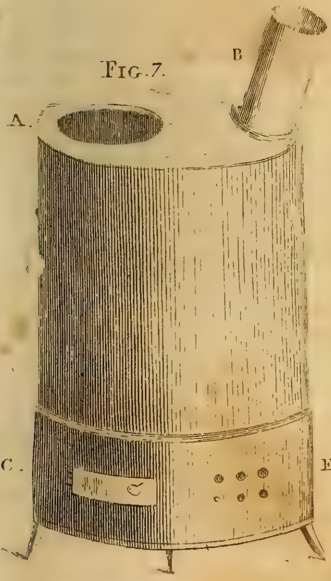


FIG. 8.

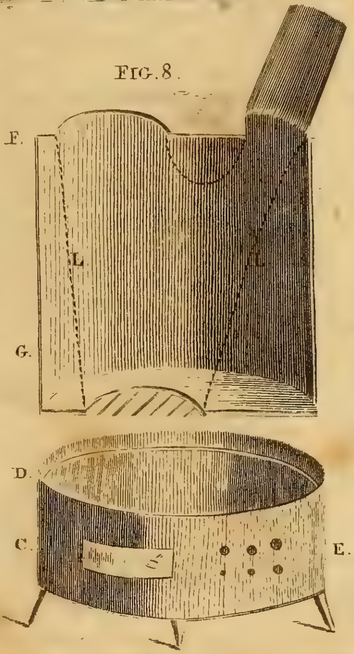


FIG. 9.

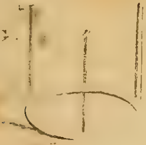
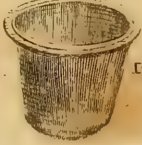


FIG. 10.



mouth of the furnace; the other hole, B, is intended for fixing the vent on.

The undermoſt plate or end of the furnace has only one circular hole, ſomewhat nearer to the end of the ellipſe than the other; hence a line paſſing through the centre of both circular holes has a little obliquity forwards: this is ſhewn in fig. 8. which is a ſection of the body of the furnace, and exhibits one half of the upper and one half of the under nearly correſponding holes. The aſh pit, fig. 7. and 8. C, is made of an elliptical form like the furnace; but is ſomewhat wider, ſo that the bottom of the furnace goes within the brim; and a little below there is a border, D, fig. 8. that receives the bottom of the furnace. Except the holes of the damping plate, E. fig. 7. and 8. the parts are all cloſed by means of a quantity of ſoft lute, upon which the body of the furnace is preſſed down, whereby the joining is made quite tight: for it is to be obſerved, that in this furnace, the body, aſh pit, vent, and grate, are all ſeparate pieces, as the furnace comes from the hands of the workman. The grate C, fig. 1. is made to apply to the outſide of the lower part or circular hole: it conſiſts of a ring ſet upon its edge, and bars likewiſe ſet on their edges. From the outer part of the ring proceed four pieces of iron, by means of which it can be ſcrewed on: it is thus kept out of the cavity of the furnace, and preſerved from the heat, whereby it laſts much longer. The ſides of the furnace are luted, to confine the heat, and to defend the iron from its action. The luting is ſo managed, that the inſide of the furnace forms in ſome meaſure the figure of an inverted truncated cone.

We have thus combined the two figures 7. and 8. in order to deſcribe as exactly as poſſible this furnace in its entire ſtate; but to prevent confuſion, it muſt be underſtood, that fig. 7. repreſents the body of the furnace, with its bottom received within the aſh pit. As in this figure we could not exhibit the bottom of the furnace, we have in fig. 8. ſuppoſed the body of the furnace to be cut down through its middle; whereby one half of the undermoſt hole, with a proportional part of the grate applied to it, is exhibited along with, and nearly oppoſed to, one half of the upper hole F; and the dotted lines L L, ſhew the form of the cavity of the furnace after the lute lining has been got in. It is alſo to be underſtood, that the aſh pit of fig. 8. is not, like the body of the furnace, divided in its middle, but is the aſh-pit of fig. 7. only detached from the bottom of the furnace, in order to repreſent the border D, on which the bottom of the furnace is received.

Now to adapt this furnace to the different operations of chemiſtry, we may firſt obſerve, that for a melting furnace, we need only provide a covering for the upper hole A, which in this caſe is made the door of the furnace. As this hole is nearly over the grate, it is very convenient for introducing, and examining from time to time, the ſubſtances that are to be acted on. The cover for the door may be a flat and ſquare tyle or brick. Dr Black uſually employs a ſort of lid made of plate iron, with a rim that contains a quantity of luting. The degree of heat will be greater in proportion to the number of holes we open in the damping-plate E: by this means the furnace may be employed in moſt operations in the way of aſſaying: and though it does not admit of the introduction of a muffle, yet if a ſmall piece of brick is placed end-ways in the middle of the grate, and if large pieces of fuel are employed, ſo that the air may have free paſſage through it, metals may be aſſayed in this furnace without coming in contact with the fuel. It may therefore be employed in thoſe operations for which a muffle is uſed; and thus lead and other ſundry metals may be brought to their proper calces.

When we wiſh to employ this furnace for thoſe diſtillations requiring an intenſe heat, the earthen retort is to be ſuſpended by means of an iron ring, having three branches ſtanding up from it, fig. 9. This ring hangs down from the hole A about half a foot; ſo that the bottom of the retort reſts upon the ring, and is immediately hung over the fuel. The opening round the upper part of the retort, between it and the edges of the hole A, is filled up with broken crucibles or potſherds, and theſe are covered over with aſhes, which tranſmit the heat very ſlowly. This furnace then anſwers for diſtillations performed with the naked fire.

For diſtillations with retorts performed in the ſand-bath, there is an iron pot, (fig. 10.) fitted for the opening of the furnace A, and this is employed as a ſand-pot. In theſe diſtillations the vent B becomes the door of the furnace.

This furnace anſwers very well too for the common ſtill; part of which may be made to enter the opening A, and hang over the fire. In this caſe likewiſe, the vent B is the door of the furnace, by which freſh fuel is to be added: but in ordinary diſtillations it is never neceſſary to add freſh fuel; and even in the diſtillation of mercury, phoſphorus of urine, and indeed during any proceſs whatever, the furnace generally contains ſufficient to finiſh the operation; ſo effectually is the heat preſerved from diſſipation, and the conſumption of the fuel is ſo very ſlow.

Very commodious portable furnaces for experiments and operations in a ſmall ſcale may be conſtructed of Black lead Crucibles as follows.

Fig. 2, plate 2. repreſents a ſection of ſuch a furnace for diſtilling in a ſand heat. A B is a black lead crucible (ſuppoſed, for the more eaſily ſhowing the conſtruction of the inſide of the furnace, to be cut down through the middle). In the bottom of the crucible a circular hole C is cut, and the crucible is ſupported on an iron trevet *fig.* 5. which has alſo a circular hole, correſponding to the hole in the bottom of the crucible or a little larger: at a little diſtance above the bottom a grate G is placed. The plan of the grate is repreſented by *fig.* 3. having three ſmall projections *a*, *a*, *a*, which reſt on three notches cut in the inſide of the crucible. The top of the crucible is covered with an iron plate, *fig.* 6. having two circular holes in it: The larger one L for holding the ſand pot P (the form of which is ſeen at *fig.* 4.) and the ſmaller hole S anſwers both for a door for adding freſh fuel, and for the vent. The ſand pot P, hangs by its ledge *r* on the iron plate I, and the retort R is placed with its neck N pointing from the vent S. Fig. 1. is a perſpective view of the furnace ſtanding on its trevet, with a retort in the ſand pot.

In order to have a melting furnace, we take another crucible exactly of the ſame ſize with the firſt, which has a circular hole cut through its bottom; this laſt crucible is inverted over the other as in Fig. 7. A is the firſt crucible ſtanding on its trevet B. C is the ſecond crucible inverted over the other: its hole in the bottom D becoming the vent of the furnace, which may be heightened into a chimney by an iron pipe E. At the edge of the upper crucible, a ſemicircular hole F is cut, which ſerves for introducing freſh fuel, or for inſpecting the operation. The piece cut out muſt be preſerved, and will ſerve as a door; and two ſmall holes *b b* muſt be made in it for introducing the prongs of a fork, Fig. 10. in order to open or ſhut the door when the furnace is hot. After the matter we are working on is in fuſion, the veſſel containing it cannot be taken out by the door F; but, in order to do this, we muſt remove the upper crucible C. As it is too hot to be touched, we muſt have a wire hoop *w* fixed firmly in a ſmall groove round the crucible. In this wire are two loops *l l*, by which, with the looſe handles *m m*, we can eaſily lift off the hot crucible. This wire hoop is uſeful alſo for giving additional ſtrength to the crucible; and, as we may ſometimes have occaſion to lift the undermoſt crucible, while it is hot, a ſimilar hoop may be alſo put round it as at *n n*.

This melting furnace can alſo be employed as a reverberating one for diſtillations in the naked fire, the door F ſerving as an opening for letting out the neck of the retort.

With a very little alteration in its parts this furnace can be eaſily converted into an aſſay furnace. For this purpoſe we muſt remove the grate G and place a larger one, Fig. 9. on the top of the lower crucible juſt level with the bottom of the door F, and on this grate the muffle Fig. 11. is to be placed with its mouth correſponding to the door F. A ſection of this aſſay furnace is repreſented by Fig. 8. A, the larger grate, reſting on the rim of the under crucible, B the muffle with its mouth correſponding with the door F.

BATHS.

WHERE a ſtrong degree of heat is requiſite, as in the fuſion of metals, &c. the veſſel containing the ſubject matter is placed among the burning fuel, or immediately over it: this is called *operating in a naked fire*. Where a ſmaller heat is ſufficient, and the veſſel employed is either of glaſs, or of the more tender kinds of earthen ware, the ſand-bath or water-bath is uſed to defend the veſſel from the immediate action of the fire, and to render the heat leſs fluctuating.

Both theſe baths have their peculiar advantages and inconveniencies. In water, the heat is equal through every part of the fluid: whereas in ſand it varies in different parts of one perpendicular line, decreaſing from the bottom to the top. Water cannot be made to receive, or to tranſmit to veſſels immerſed in it, above a certain degree of heat, viz. that which is ſufficient to make it boil; and hence it ſecures effectually againſt any danger of an exceſs of heat, in thoſe operations wherein the product would be injured by a heat greater than that of boiling water; but this advantage renders it uſeleſs for proceſſes which require a greater heat, and for which ſand or other ſolid intermedia are neceſſarily employed. There is this convenience alſo in the ſand-bath, that the heat may be readily diminiſhed or increaſed about any particular veſſel, by raiſing it higher out of the ſand or ſinking it deeper; that different ſubjects may be expoſed to different degrees of heat from one fire; and that it keeps the veſſels ſteady. The ſand made choice of ſhould be ſeparated from the finer parts by waſhing, and from little ſtones by the ſieve.

Coating *of* Glasses, *and* Lutes.

Some proceſſes require to be performed with glaſs veſſels in a naked fire. For theſe purpoſes, veſſels made of the thinneſt glaſs ſhould be choſen; for theſe bear the fire without cracking, much better than thoſe which are thicker, and in appearance ſtronger.

All glaſſes, or other veſſels that are apt to crack in the fire, muſt be cautiouſly heated by ſlow degrees: and when the proceſs is finiſhed, they ſhould be as ſlowly cooled, unleſs where the veſſel is to be broken to get out the preparation, as in ſome ſublimations: in this caſe it is more adviſeable to expoſe the hot glaſs ſuddenly to the cold air, which will ſoon occaſion it to crack, than to endanger throwing down the ſublimed matter among the reſiduum by a blow.

As a defence from the violence of the fire, and to prevent the contact of cold air on ſupplying freſh fuel, &c. the glaſs is to be coated over, to the thickneſs of about half a crown with Windſor loam, ſoftened with water into a proper conſiſtence, and beaten up with ſome horſe-dung, or rather clayey compoſitions above mentioned in p. 47.

Theſe compoſitions ſerve alſo as a lute, for ſecuring the junctures of the veſſels in the diſtillation of the volatile ſalts and ſpirits of animals: for the diſtillation of acid ſpirits, the matter may be moiſtened with a ſolution of fixed alkaline ſalt inſtead of water. For moſt other purpoſes, a piece of wet bladder, or paſte of flour and water, or of lintſeed meal (that is, the cake left after the expreſſion of oil of lintſeed), are ſufficient lutes.

Sometimes clay and chalk are mixed up into a paſte, and ſpread upon ſlips of paper: and ſometimes gum arabic is uſed inſtead of the clay, and mixed up in the ſame manner.

Wet bladders contract ſo ſtrongly by drying, that they frequently break the veſſels: And the fat lute of Mr Macquer, which is a compoſition of clay and chalk with oil, is too cloſe for moſt operations. Where very elaſtic ſteams are to be condenſed, we are often obliged, even where the common lutes are employed, to leave, or make, an opening which may be occaſionally ſtopped by a plug: By this means we give paſſage to a part of theſe vapours, which prevents the burſting of the veſſels and facilitates the condenſation of the reſt. If we wiſh to collect incondenſible vapours, we receive them into a jar inverted under a baſon of water or quickſilver, as directed in our Analyſis of Vegetables by fire.

Beſides theſe, there are alſo required ſome other kinds of lutes for joining veſſels together in operations requiring a ſtrong heat, and for lining furnaces. Four parts of ſand and one of clay anſwers beſt for luting: but for lining the inſide of furnaces, ſix or ſeven parts of ſand to one of clay is neceſſary, in order to prevent the contraction and conſequent cracking of the clay, which it moſt readily does when freeſt of ſand. Beſides this lute immediately next to the fire, three parts, by weight, of charcoal to one of common clay, are firſt mixed in a dry powder, and as much water is to be added as will make them into balls of the conſiſtence of ſnow: theſe balls are beat very firm and compact, by means of a hammer, on the inſide of the furnace, to the thickneſs of about

PLATE II.

Fig. 1.

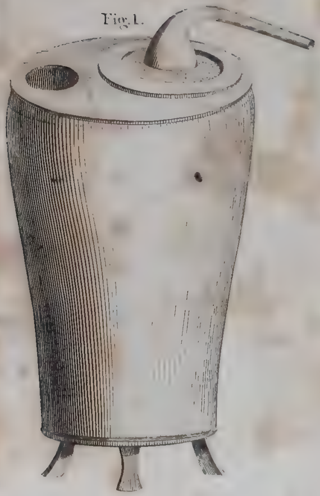


Fig. 2.

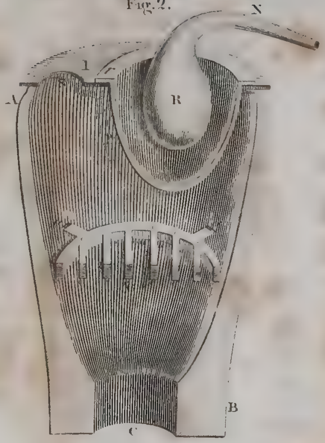


Fig. 6.

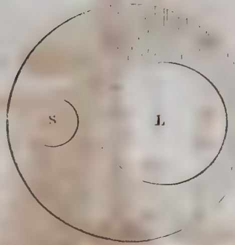


Fig. 7.

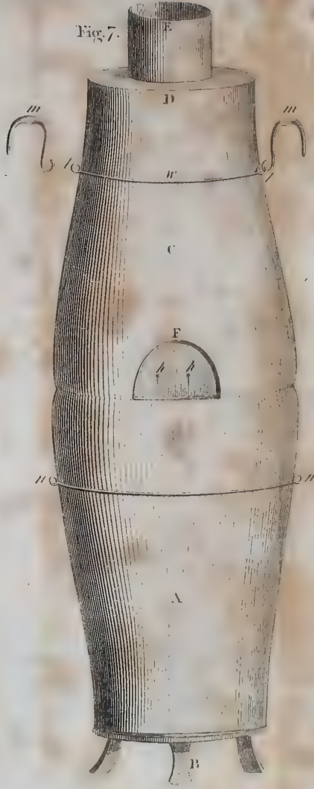


Fig. 8.

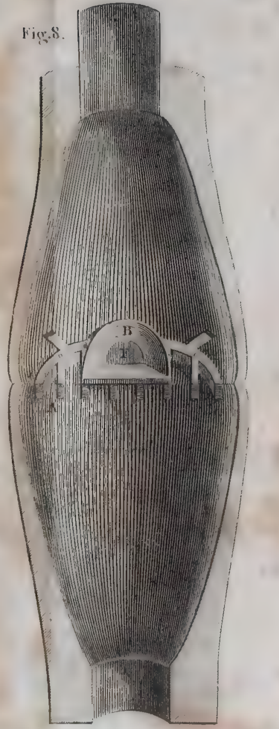


Fig. 9.

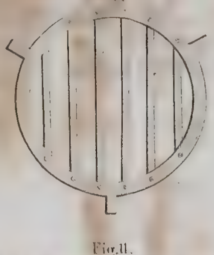


Fig. 10.

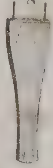


Fig. 3.

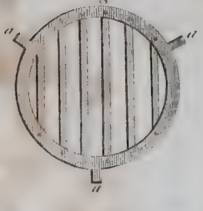


Fig. 4.

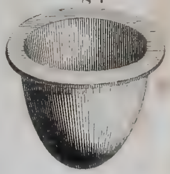


Fig. 5.

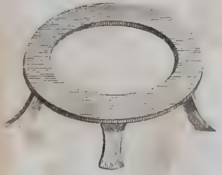
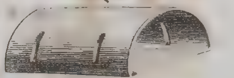


Fig. 11.



Scale of Inches

one inch and a half: the other lute is ſpread over this to about the thickneſs of half an inch; and this too is beat ſolid by means of a hammer, and allowed to dry ſlowly, that all cracks and fiſſures may be prevented. After the body of the furnace is thus lined, the vent is applied, and lined in the ſame manner; and the whole being dried, which requires a long time, a fire is kindled in the furnace, which is gradually heated for a day or two, and is then raiſed to the greateſt intenſity: By theſe means the whole luting acquires a hardneſs equal to that of free-ſtone. Theſe are the lutes recommended and uſed by Dr Black; and, except for ſome operations in metallurgy, he ſeems to have been the firſt who thought of employing charcoal as an ingredient for the lining of furnaces.

The few ſimple lutes, here deſcribed, will be found to anſwer all the purpoſes of the more operoſe compoſitions, recommended for theſe intentions by the chemical writers.

VESSELS.

In this place, we ſhall only give the operator a few general cautions with regard to the *matter* of the veſſels deſigned for containing the ſubject; and refer their deſcription to the plates, and to the account of the operations in which they are employed.

Metalline veſſels poſſeſs the advantage of being able to bear ſudden alterations of heat and cold, and of being very ſtrong, ſo as to be capable of confining elaſtic ſteams; but, except thoſe made of gold or platina, they are readily corroded by acids, even by the mild ones of the vegetable kingdom. Copper veſſels are corroded alſo by alkaline liquors, and by ſome neutral ones, as ſolutions of ſal ammoniac. It is obſervable, that vegetable acids do not act upon this metal by boiling, ſo much as by ſtanding in the cold; for even lemon juice may be boiled in a clean copper veſſel, without receiving from it any taſte or ill quality; whereas, in the cold, it ſoon diſſolves ſo much as to contract a pernicious taint. The tin, with which copper veſſels are uſually lined, gives likewiſe a ſenſible impregnation to acid juices: and this impregnation alſo is probably not innocent, more eſpecially as a quantity of lead is commonly mixed with the tin. From the want of tranſparency in theſe veſſels, we are alſo deprived of the advantage of ſeeing the different changes during the operation.

The earthen veſſels poſſeſs none of the deſireable qualities for chemical operations, except that of ſuſtaining very violent degrees of heat, without being melted or otherwiſe changed. Theſe veſſels are leſs liable to external cracks from ſudden applications of heat and cold when they are made with a certain proportion of ſand mixed with the clay, than when they are made of clay alone. Black lead, too, mixed with the clay, makes the veſſels ſuſtain violent degrees, and ſudden alterations, of heat ſurpriſingly well: crude clay, reduced to a kind of ſand by violent heat, and then mixed with raw clay, is found to furniſh veſſels excellently fitted for thoſe operations where ſand might be corroded: but of all kinds of earthen ware, the moſt perfect is porcelain, compoſed of the fineſt clay mixed with a ſtony matter capable of melting in a violent heat. This, however, is too coſtly an article for general uſe. Reaumer difdiſcovered a method of imitating porcelain, by melting the coarſer kinds of glaſs with a mixture of ſand and clay: this has been found to be nearly of the colour of porcelain, to be much ſtronger than glaſs, and to bear the moſt ſudden changes of heat and cold that we have occaſion to apply. There has not hitherto been any manufacture of this ware; and till then it will not probably come into general uſe.

The common earthen veſſels are of a looſe porous texture: and hence are apt to imbibe a conſiderable quantity of certain liquids, particularly of thoſe of the ſaline kind; which ſoon diſcover their having penetrated the veſſel, by ſhooting into ſaline efflореſcences on the outſide. Thoſe which are *glazed* have their glazing corroded by acids: by vinegar and the acid juices of fruits, as well as by the ſtronger acids of the mineral kingdom. And as this glazing conſiſts chiefly of vitrified lead, the impregnation which it communicates to theſe liquors is of a very dangerous kind. If vinegar be boiled for ſome time in a glazed earthen veſſel, it will yield on being inſpiſſated acetated lead.

The veſſels called, from their hardneſs and compactneſs *ſtone ware,* are in a good meaſure free from the inconveniencies of the coarſer earthen ones. Their glazing, being a part of the clay itſelf ſuperficially vitrified by means of the fumes of common ſalt, appears to be proof againſt acids. None of this kind of ware is now manufactured in Britain. It is therefore rarely to be met with.

Glaſs-veſſels ſuffer no corroſion, and give no taint, in any of the pharmaceutic operations. When therefore they are made of a proper thinneſs, when they are well annealed, and when blown into a ſpherical form, ſo that the heat may be equally applied, they are preferable to all others, where they are not expoſed to great and ſudden changes of heat and cold, and where ſtrength is not required: What is called the *flint glaſs,* which contains a quantity of lead in its compoſition, is the beſt for chemical purpoſes. Having made theſe general remarks, we next come to deſcribe the particular inſtruments uſed in pharmacy: but as the nature and uſes of each will be better underſtood after reading the following chapter, and the proceſſes in which they are employed, we ſhall here only give a ſhort explanation of the figures of theſe inſtruments; and to which the reader may occaſionally recur in going over the ſequel of the work.

EXPLANATION *of* PLATE III.

Fig. 1. An evaporating diſh, being ſuch a ſection of a globe of glaſs as is beſt fitted for expoſing a large ſurface.

Fig. 2. The chemical phial or matraſs, furniſhed with a long neck for allowing the vapours raiſed by heat or mixture to circulate and be condenſed, whereby their eſcape is prevented.

Fig. III. A retort and receiver together, to ſhew their connection during diſtillation or ſublimation. The receiver is of a conical figure; whereby the ſteams have more room to circulate and condenſe. Dr Black has found this form more convenient, when we wiſh to get out ſublimed matter, or to clean the veſſel.

In the laſt figure was repreſented an example of the *diſtillatio per latus;*

tus, or the diſtillation by the retort and receiver: and it is uſed in all caſes where nice operations are required, or where metallic veſſels would be corroded by the contained matter. The *diſtillatio per aſcenſum* is performed by,

Fig. 4. A copper ſtill.

A, The body of the ſtill, containing the matter.

B, The head of the ſtill into which the vapour immediately ariſes; this is made to fit very cloſely to the body, ſo as to require little or no luting.

C, A pipe iſſuing from the middle of the top of the head, and deſcending to C, is received into the pipe D.

D, The pipe or worm deſcending into a large veſſel E, containing a quantity of cold water to keep the pipe cool, which facilitates the condenſation of the vapours.

F, The further extremity of this pipe, coming out at an opening, in the under part of the veſſel E; from this extremity the condenſed matter diſtils.

This inſtrument is on the conſtruction uſed and recommended by Dr Black, and varies a little from the common form. He finds it unneceſſary that the pipe D ſhould be made ſerpentine, which renders the cleaning of it very difficult and uncertain.

Fig. 5. A ſeparatory, for ſeparating oil from water.

This inſtrument has a pipe coming from its ſide near its middle, and is to be placed under the end of the pipe F, *fig.* 4. The diſtilled mixture of oil and water by reſting in this veſſel ſeparates; the oil either ſwims on the ſurface of the water above the lateral pipe, or ſinks below it; in either caſe the water will run off by itſelf through the pipe, and the oil will be detained in the veſſel.

Fig. 6. A ſubliming glaſs. The under part of which is kept hot, when intended to ſublime ſolid matters, and the upper part is kept cool, whereby the vapour is condenſed in the form of a cake at the top. The mouth of the veſſel is to be ſtopt by a looſe ſtopper. This method is not ſo well fitted for large operations as the retort and receiver.

Fig. 7. Adopters, which are receivers that have pipes iſſuing from their farther extremity, which are received into other receivers or adopters; we may increaſe or diminiſh the number of adopters at pleaſure. They are uſeful for the condenſation of very elaſtic vapours, as thoſe of the cauſtic volatile alkali, vitriolic ether, &c.

Fig. 8. A retort funnel for pouring liquors into a retort, without wetting the neck of the retort; and it is neceſſary that in drawing out the funnel we ſhould keep it applied to the upper part of the retort, whereby the drop hangs from the under edge of the funnel, and therefore cannot touch the inſide of the retort.

Fig. 9. A crucible which is angled at the top for the conveniency of pouring out the contained matter. It is narrow below for receiving ſmall quantities, which in a larger compaſs might be leſs eaſily brought together. The black lead and clay crucibles are often acted on by ſaline matters, and ſometimes deſtroyed; they anſwer however much better for fuſing metals than thoſe of clay and ſand. Theſe laſt anſwer beſt for

ſaline ſubſtances: but being more liable to break than the other, they may be made ſecurer by incloſing the crucible containing the matter within another crucible, and filling up the interſtice with ſand.

The crucible in this figure ſtands upon a pedeſtal, which is a piece of clay or brick between the crucible and the grate, to prevent the cold air ſtriking the bottom while the top is hot. To prevent the fuel from falling in, we uſe covers made of clay, or we invert another crucible upon that containing the matter, and ſecure the joining by a proper lute.

Fig. 10. A pair of crucible tongs for putting in or taking out the matter to be wrought on.

Fig. 11. The form of the cylindrical glaſs meaſures recommended by the College of Edinburgh; for the particular deſcription of theſe meaſures ſee the ſubſequent article MEASURES.

WEIGHTS.

Two different kinds of weights are uſed in this country; one in the merchandiſe of gold and ſilver; the other for almoſt all other goods. The firſt we call Troy, the latter Averdupois weight.

The goldſmiths divide the Troy pound into twelve ounces; the ounce into twenty pennyweights; and the pennyweight into twenty-four grains. The Averdupois pound is divided into ſixteen ounces; and the ounce into ſixteen parts, called drachms.

The pound of the London and Edinburgh pharmacopœias is that of the goldſmiths, divided in the following manner:

The pound	contains	twelve ounces.
The ounce		eight drachms.
The drachm		three ſcruples.
The ſcruple		twenty grains.

The medical or Troy pound is leſs than the Averdupois, but the ounce and the drachm greater. The Troy pound contains 5760 grains: the Averdupois 7000 grains. The Troy ounce contains 480 grains; the Averdupois only 437½. The Troy drachm 60; the Averdupois drachm ſomewhat more than 27.

Theſe differences in our weights have occaſioned great confuſion n the practice of pharmacy. As the druggiſts and grocers ſell by the Averdupois weight, the Apothecaries have not in general kept any weights adjuſted to the Troy pound greater than two drachms, uſing Averdupois ounces. By this means it is apparent, that in all compoſitions, where the ingredients are preſcribed, ſome by pounds and others by ounces, they are taken in a wrong proportion to each other; and the ſame happens where any are directed in leſſer denominations than the ounce, as theſe ſubdiviſions, uſed by the apothecaries, are made to a different ounce.

The Edinburgh college have expreſsly adverted to the errors ariſing from this promiſcuous uſe of weights, and ſtrongly recommend the uſe of the Troy pound and ounce. Sets of thoſe weights are made with accuracy and ſold by Mr John Milne founder in the High-ſtreet, Edinburgh.

PLATE. III. N°. I.

Fig. I.

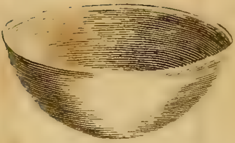


Fig. 2.

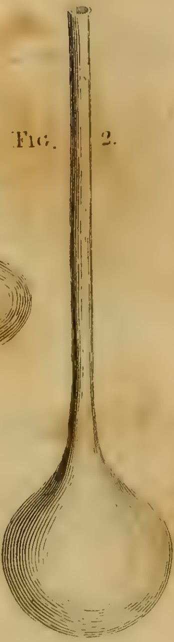
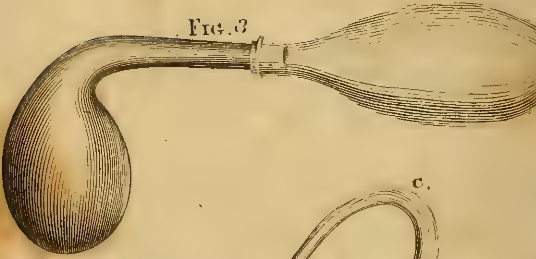


Fig. 3



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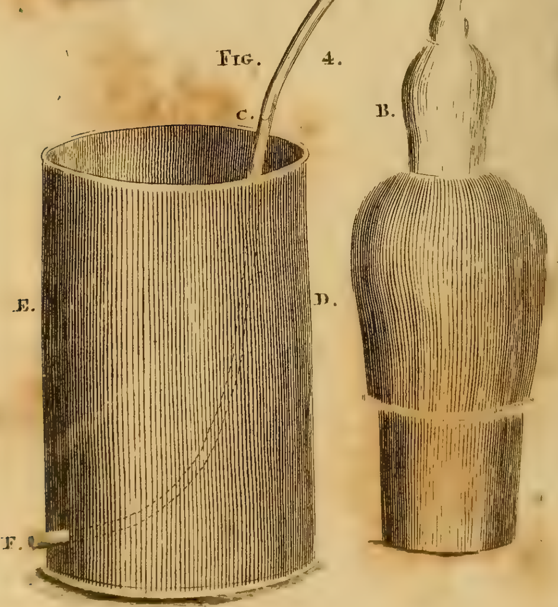
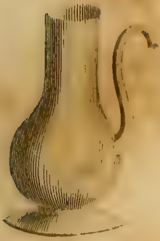


Plate. III. Nº 2.

Fig. 5.



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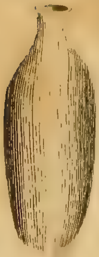
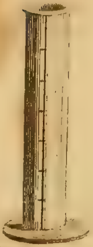


Fig. 11.



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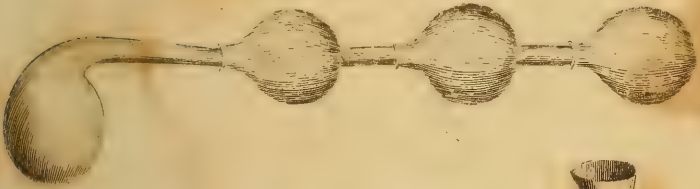


Fig. 8.

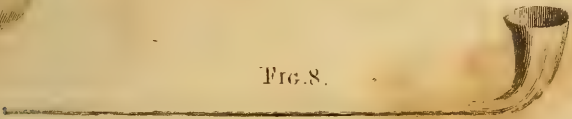


Fig. 9.

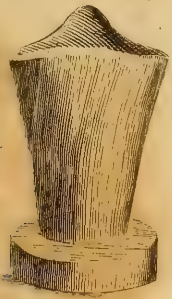
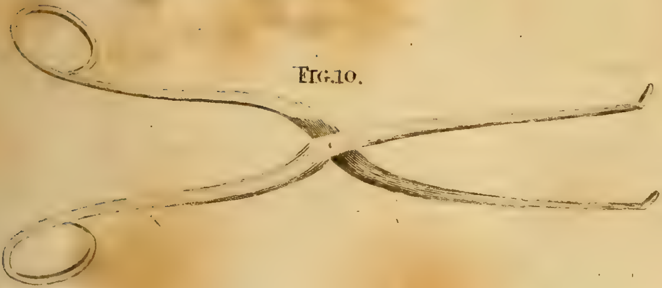


Fig. 10.



MEASURES.

THE meaſures employed by the London College are the common wine meaſures.

A gallon	contains	eight pints *(libræ.)*
The pint		ſixteen ounces.
The ounce		eight drachms.

Though the pint is called by Latin writers *libra* or pound, there is not any known liquor of which a pint meaſure anſwers to that weight. A pint of the higheſt rectified ſpirit of wine exceeds a pound by above half an ounce; a pint of water exceeds it by upwards of three ounces; and a pint of oil of vitriol weighs more than two pounds and a quarter.

The Edinburgh College, ſenſible of the many errors from the promiſcuous uſe of weights and meaſures, and of their different kinds, have in the laſt edition of their Pharmacopœia entirely rejected meaſures, and employ the Troy weight in directing the quantity either of ſolid or fluid ſubſtances. For greater convenience in weighing water, wine, and other fluids of nearly the ſame ſpecific gravity, they have recommended the uſe of glaſs meaſures ſubdivided like the weights into ounces, drachms, and grains. There are three of theſe meaſures of different ſizes, although all of them are of the ſame ſhape (ſee Plate III. *fig.* 11.) the largeſt of them is 10 inches long, and an inch and three quarters wide in the inſide; a longitudinal line is engraved on one ſide of it and on this line tranſverſe marks are made correſponding to ounces, beginning from the bottom, and proceeding upwards to 12 ounces, or one pound. The ſecond meaſure is ſix inches long, and one inch diameter within; the ſcale engraved on its ſides correſponds with drachms, beginning from the bottom, and proceeding upwards to 16 drachms or two ounces. The laſt meaſure is 4 inches long, and half an inch diameter within; the ſcale engraved on its ſides correſponds with grains, beginning from the bottom, and proceeding upwards to 120 grains or 2 drachms. Theſe meaſures are made at the glaſs manufactory at Leith, from patterns ſent them by the college of phyſicians.

As theſe meaſures are made to correſpond with the reſpective weights of water, it is evident that they can only be employed for aſcertaining determined weights of ſuch fluids as have the ſame or nearly the ſame ſpecific gravity with water; as wines, tinctures, infuſions, &c. And not for the ſtrong acids, rectified ſpirit, &c. whoſe ſpecific gravities are different from that of water. Thus the quantity of ſtrong vitriolic acid filling the 12 ounce, or pound meaſure, would weigh 22 ounces 1 drachm and 36 grains. And the ſame meaſure of rectified ſpirit of wine would only weigh 10 ounces.

A table of the weights of certain meaſures of different fluids may on many occaſions be uſeful, both for aſſiſting the operator in regulating their proportions in certain caſes, and ſhowing the comparative gravities of the fluids themſelves. We here inſert ſuch a table for a pint, an ounce and a drachm meaſure, according to the London pharmacopœia, of thoſe liquids, whoſe gravity has been determined by experiments that can be relied on. The wine gallon contains 231 cubic inches; whence the pint contains $28\frac{7}{8}$, the ounce $1\frac{103}{128}$, and the drachm $\frac{231}{1024}$ of a cubic inch.

	Pint weighs			Ounce meaſure weighs	Drachm meaſure weighs.
	ounces	drachms	grains	grains	grains
INFLAMMABLE SPIRITS.					
Highly-rectified ſpirit of wine	12	5	32	38	$47\frac{1}{2}$
Common rectified ſpirit of wine	13	2	40	400	50
Proof ſpirit	14	1	36	426	$53\frac{1}{4}$
Dulcified ſpirit of ſalt	14	4	48	438	$55\frac{3}{4}$
Dulcified ſpirit of nitre	15	2	40	460	$57\frac{1}{2}$
WINES.					
Burgundy	14	1	36	426	$53\frac{1}{4}$
Red port	15	1	36	456	57
Canary	15	6	40	475	$59\frac{1}{2}$
EXPRESSED OILS.					
Olive oil	13	7	29	418	$52\frac{1}{4}$
Lintſeed oil	14	2	8	428	$53\frac{1}{2}$
ESSENTIAL OILS.					
Oil of turpentine	12	1	4	364	$45\frac{1}{2}$
of orange peel				408	51
of juniper berries				419	$52\frac{5}{8}$
of roſemary				430	$53\frac{3}{4}$
of origanum				432	54
of carraway ſeeds				432	54
of nutmegs				436	$54\frac{1}{2}$
of ſavin				443	$55\frac{3}{8}$
of hyſſop				443	$55\frac{3}{8}$
of cummin-ſeed				448	56
of mint				448	56
of pennyroyal				450	$56\frac{1}{4}$
of dill ſeed				457	$57\frac{1}{8}$
of fennel-ſeed				458	$57\frac{1}{4}$
of cloves				476	$59\frac{1}{2}$
of cinnamon				476	$59\frac{1}{2}$
of ſaſſafras				503	$62\frac{7}{8}$

	Pint weighs			Onnce meaſure weighs	Drachm meaſure weighs
	ounces	drachms	grains	grains	grains
ALKALINE LIQUORS.					
Aqua kali puri, *Pharm. Lond.*	16	0	0	480	60
Spirit of ſal ammoniac -	17	1	10	514¾	64⅓
Strong ſope boiler's ley -	17	6	24	534	66¾
Lixivium tartari - -	24	0	0	720	90
ACID LIQUORS.					
Wine vinegar - -	15	3	44	464	58
Beer-vinegar - -	15	6	56	476	59½
Glauber's ſpirit of ſalt -	17	4	0	525	65⅝
Glauber's ſpirit of nitre -	20	2	40	610	76¼
Strong oil of vitriol -	28	5	20	860	107½
ANIMAL FLUIDS.					
Urine - -	15	5	20	470	58⅞
Cow's milk - -	15	6	40	475	59⅜
Aſſes milk - -	16	0	0	480	60
Blood - - -	16	1	4	484	60½
WATERS.					
Diſtilled water - -	15	1	50	456⅞	57⅛
Rain-water - -	15	2	40	460	57½
Spring water - -	15	3	12	462	57¾
Sea-water - -	15	5	20	470	58⅞
QUICKSILVER.	214	5	20	6440	805

CHAP.

CHAPTER III.

Of the Pharmaceutical Operations.

SECT I.

Solution.

SOLUTION is an intimate commixture of ſolid bodies with fluids into one ſeemingly homogeneous liquor. The diſſolving fluid is called a *menſtruum* or *ſolvent;* and the body diſſolved is called the *ſolvend.*

Objections have been made, and perhaps with propriety, to theſe terms; as it is ſuppoſed that the two bodies uniting in ſolution act reciprocally on each other: there is, however, no danger from the words themſelves, if we do not derive them from a miſtaken theory. Solution cannot take place, unleſs one of the bodies, at leaſt, be in a fluid ſtate; and this fluidity is effected either by water or fire: hence ſolution is ſaid to be performed in the *humid* or in the *dry way.* Thus, for inſtance, if any quantity of brimſtone be diſſolved in a ſolution of fixed alkali, the brimſtone is ſaid to be diſſolved in the *humid way:* but if the brimſtone be diſſolved by melting it with the dry alkali, the ſolution is ſaid to be done in the *dry way.* The compound produced by this mixture is called hepar ſulphuris, and is the ſame in both. Another kind of ſolution reſembling that by the dry way, is, however, to be carefully diſtinguiſhed from it: If, for example, a piece of Glauber's ſalt is put into a pan over the fire, the ſalt very ſoon aſſumes a liquid ſtate; but on continuing the heat, it loſes its fluidity, and becomes a white powder: this powder is the ſalt freed from its water, and is found to be very refractory. This liquidity depended on the water of cryſtallization, being enabled by the heat, to keep the ſalt in ſolution, and the ſalt ceaſed to be fluid as ſoon as its cryſtalliſing water was evaporated. This kind of ſolution, which is ſometimes called the watery fuſion, differs not from the firſt, or humid way.

The principal menſtrua uſed in pharmacy, are, *water*, *vinous ſpirits*, *oils*, *acid* and *alkaline liquors.*

Water is the menſtruum of all ſalts, of vegetable gums, and of animal jellies. Of ſalts, it diſſolves only a determinate quantity, though of one kind of ſalt more than another; and being thus *ſaturated,* leaves any additional quantity of the ſame ſalt untouched.

Experiments have been made for determining the quantities of water which different ſalts require for the diſſolution. Mr Eller has given a large ſet in the Memoirs of the Royal Academy of Sciences of Berlin, for the year 1750, from which the following table is extracted.

Eight ounces by weight of diſtilled water diſſolved,

	oz.	dr.	gr.
Of Refined ſugar	24	0	0
Green vitriol	9	4	0
Blue vitriol	9	0	0
White vitriol	4	4	0
Epſom ſalt	4	0	0
Purified nitre	4	0	0
Soluble tartar	4	0	0
Common ſalt	3	4	0
Sal gemmæ	3	4	0
Sal catharticus Glauberi	3	4	0
Seignette's ſalt	3	0	0
Alum	2	4	0
Sal ammoniac	2	4	0
Vitriolated tartar	1	4	0
Salt of hartſhorn	1	4	0
Sugar of lead	1	2	0
Cream of tartar	1	0	0
Borax	0	4	20

Though theſe experiments appear to have been made with great care, yet the proportions of the ſeveral ſalts, ſoluble in a certain quantity of water, will not always be found exactly the ſame with theſe above ſet down. Salts differ in their ſolubility according to the degree of their purity, perfection, and dryneſs: the vitriols, and the artificial compound ſalts in general, differ remarkably in this reſpect, according as they are more or leſs impregnated with the acid ingredient. Thus vitriolated tartar, perfectly neutralized, is extremely difficult of ſolution: the matter which remains on making nitrous acid is no other than a vitriolated tartar: and it diſſolves ſo difficultly that the operator is obliged to break the retort in order to get it out; but on adding more of the vitriolic acid, it diſſolves with eaſe. Hence many have been tempted to uſe an over-proportion of acid in this preparation: and we frequently find this acid ſoluble ſalt in the ſhops, under the name of vitriolated tartar. The degree of heat occaſions alſo a remarkable differnce in the quantity of ſalt taken up: in very cold weather, eight ounces of water will diſſolve only about one ounce of nitre; whereas in warm weather, the ſame quantity will take up four ounces. To theſe circumſtances are probably owing, in part, the remarkable differences in the proportional ſolubilities of ſalts, as determined by different authors. It is obſervable that common ſalt is leſs affected in its ſolubility by a variation of heat than any other; water in a temperate ſtate diſſoving nearly as much of it as very hot water; and accordingly this is the ſalt in which the different experiments agree the beſt. In the experiments of Hoffmann, Newmann, and Petit, the proportion of this ſalt, on a reduction of the numbers, comes out exactly the ſame, viz. three ounces of the ſalt to eight of water; Dr Brownrigg makes the quantity of ſalt a little more; Dr Grew, a drachm and a ſcruple more; and Eller, as appears in the above table, four drachms more: ſo that in the trials of ſix different perſons, made probably in different circumſtances, the greateſt difference is only one ſixth of the whole quantity of ſalt; whereas in ſome other ſalts there are differences of twice or thrice the quantity of the ſalt. In the experiments from which the table is drawn, the water was of the temperature of between 40 and 42 degrees of Farenheit's thermometer.

Some ſalts omitted by Eller are here ſubjoined: the firſt is taken from Dr Grew, and the other four from Neumann.

Eight ounces of water diſſolved

		oz.	dr.	gr.
Of fixed alkaline ſalt	above	8	0	0
Sal diureticus		8	0	0
Sugar-candy, both brown and white		9	0	0
Sugar of milk		0	2	40
Eſſential ſalt of ſorrel		0	1	20

Though water takes up only a certain quantity of one kind of ſalt, yet when ſaturated with one, it will ſtill diſſolve ſome portion of another; and when it can bear no more of either of theſe, it will ſtill take up a third, without letting go any of the former. The principal experiments of this kind, which have been made relative to pharmaceutic ſubjects are exhibited in the following table; of which the two firſt articles are from Grew, and the others from Eller.

Water, 32 parts by weight,

Fully ſaturated with	diſſolved afterward			
Nitre	Sal ammoniac	10		
Common ſalt	Nitre	10	Sal ammoniac	2
Nitre	Fixed alkali	7	Common ſalt	2
Common alkali	Nitre, near	2	Fixed alkali	2½
Volatile alkali	Nitre	4	Sugar	2
Sal ammoniac	Common ſalt	2½		
Soluble tartar	Nitre	2		
Vitriolated tartar	Fixed alkali	2		
Glauber's ſalt	Nitre	1	Sugar	1
Epſom ſalt	Sugar	6		
Borax	Fixed alkali	2		

In regard to the other claſs of bodies for which water is a menſtruum, viz. thoſe of the gummy and gelatinous kind, there is no determinate point of ſaturation: the water unites readily with any proportions of them, forming, with different quantities, liquors of different conſiſtence. This fluid takes up likewiſe, when aſſiſted by trituration, the vegetable gummy reſins, as ammoniacum and myrrh; the ſolutions of which though *imperfect*, that is, not tranſparent but turbid and of a milky hue, are nevertheleſs applicable to valuable purpoſes in medicine. It mixes with vinous ſpirits, with acid and alkaline liquors, not with oils, but imbibes ſome of the more ſubtile parts of eſſential oils ſo as to become impregnated with their ſmell and taſte.

Rectified *ſpirit of wine*, or rather *alkohol*, is the menſtruum of the eſſential oils and reſins of vegetables; of the pure diſtilled oils, and ſeveral of the colouring and medicinal parts of animals; of ſome mineral bituminous ſubſtances, as of ambergris; and of ſopes, though it does not act upon the expreſſed oil and fixed alkaline ſalt, of which ſope is compoſed: whence, if ſope contains any ſuperfluous quantity of either the oil or the ſalt, it may by means of this menſtruum be excellently purified. It diſſolves, by the aſſiſtance of heat, volatile alkaline ſalts: and more readily the neutral ones, compoſed either of fixed alkali and the acetous acid, as the ſal diureticus, or of the volatile alkali and the nitrous acid, as alſo the ſalt of amber, &c. It mixes with water and with acids; not with alkaline lixivia.

Oils diſſolve vegetable reſins and balſams, wax, animal fats, mineral bitumens, ſulphur, and certain metallic ſubſtances, particularly lead. The expreſſed oils are, for moſt of theſe bodies, more powerful menſtrua than thoſe obtained by diſtillation; as the former are more capable of ſuſtaining, without injury, a ſtrong heat, which is in moſt caſes neceſſary to enable them to act. It is ſaid, that one ounce of ſulphur will diſſolve in three ounces of expreſſed oil, particularly lintſeed oil; but requires ſix ounces of eſſential oil, as turpentine.

All acids diſſolve alkaline ſalts, alkaline earths, and metallic ſubſtances. The different acids differ greatly in their action upon theſe laſt; one diſſolving only ſome particular metals; and another, others.

The *vegetable* acids diſſolve a conſiderable quantity of zinc, iron, copper, lead, and tin; and extract ſo much from the metallic part of antimony, as to become powerfully emetic: They diſſolve lead more readily, if the metal be previouſly calcined by fire, than in its metallic ſtate.

The *muriatic* acid diſſolves zinc, iron, and copper; and though it ſcarcely acts on any other metallic ſubſtance in the common way of making ſolutions, it may nevertheleſs be artfully combined with them all. The corroſive ſublimate, and antimonial cauſtic of the ſhops, are combinations of it with mercury and the metallic part of antimony, effected by applying the acid, in the form of fume, to the ſubjects, at the ſame time alſo ſtrongly heated.

The *nitrous* acid is the common menſtruum of all metallic ſubſtances, except gold and the metallic part of antimony; of which two, the proper ſolvent is a mixture of the nitrous and muriatic acids, called *aqua regia*.

The *vitriolic* acid, diluted with water, eaſily diſſolves zinc and iron. In its concentrated ſtate, and aſſiſted by a boiling heat, it may be made to corrode, or imperfectly diſſolve, moſt of the other metals.

Fixed air, or the aërial acid, diſſolves iron, zinc, and calcareous earth; and theſe ſolutions muſt be conducted without heat.

Alkaline *lixivia* diſſolve oils, reſinous ſubſtances, and ſulphur. Their power is greatly promoted by the addition of quicklime; inſtances of which occur in the preparation of ſope, and in the common cauſtic. Thus acuated, they reduce the fleſh, bones, and other ſolid parts of animals, into a gelatinous matter.

This increaſed acrimony in alkaline ſalts, is owing to the abſtraction of their fixed air; that acid having a greater attraction for quicklime than for alkalies

Solutions made in water and in ſpirit of wine poſſeſs the virtues of the body diſſolved; while oils generally ſheath its activity, and acids and alkalies vary its quality. Hence watery and ſpirituous liquors are the proper menſtrua of the native virtues of vegetable and animal matters.

Moſt of the foregoing ſolutions are eaſily effected, by pouring the menſtruum on the body to be diſſolved, and ſuffering them to ſtand together for ſome time expoſed to a ſuitable warmth. A ſtrong heat is generally requiſite to enable oils and alkaline liquors to perform their office; nor will acids act on ſome metallic bodies without its aſſiſtance. The action of watery and ſpirituous menſtrua is likewiſe expedited by a moderate heat; though the quantity which they afterwards keep diſſolved is not, as ſome ſuppoſe, by this means increaſed: all that heat occaſions theſe to take up, more than they would do in a longer time in the cold, will, when the heat ceaſes, ſubſide again. This at leaſt is moſt commonly the caſe, though there may be ſome inſtances of the contrary.

The action of acids on the bodies which they diſſolve is generally accompanied with heat, effervеſcence, and a copious diſcharge of elaſtic aerial fluids, different in different caſes.

There is another ſpecies of ſolution, in which the moiſture of the air is the menſtruum. Fixed alkaline ſalts and thoſe of the neutral kind, compoſed of alkaline ſalts and the vegetable acids, or of ſoluble earths and any acid except the vitriolic, and ſome metallic ſalts, on being expoſed for ſome time to a moiſt air, gradually attract humidity, and at length become liquid. Some ſubſtances, not diſſoluble by the application of water in its groſſer form, as the butter of antimony, are eaſily liquefied by this ſlow action of the aerial moiſture. This proceſs is called *deliquation.*

SECT. II.

EXTRACTION.

THE liquors which diſſolve certain ſubſtances in their pure ſtate, ſerve likewiſe to *extract* them from admixtures of other matter. Thus ardent ſpirit, the menſtruum of eſſential oils and reſins, takes up the virtues of the reſinous and oily vegetables, as water does thoſe of the mucilaginous and ſaline; the inactive earthy parts remaining untouched by both. Water extracts likewiſe from many plants ſubſtances which by themſelves it has little effect upon; even eſſential oils being, as we have formerly obſerved, rendered ſoluble in that fluid, by the admixture of gummy and ſaline matter, of which all vegetables participate

ticipate in a greater or leſs degree. Thus many of the aromatic plants, and moſt of the bitters and aſtringents, yield their virtues to this menſtruum.

Extraction is performed, by *macerating* or *ſteeping* the ſubject in its appropriated menſtruum in the cold: or *digeſting* or *circulating* them in a moderate warmth: or *infuſing* the plants in the boiling liquor, and ſuffering them to ſtand in a covered veſſel till grown cold; or actually *boiling* them together for ſome time. If the vegetable matter is itſelf ſucculent and watery, it is ſometimes only neceſſary to expreſs the juice, and evaporate it to the proper conſiſtence.

The term *digeſtion* is ſometimes uſed for maceration; and in this caſe, the proceſs is directed to be performed *without heat:* where this circumſtance is not expreſſed, digeſtion always implies the uſe of heat. Circulation differs little from digeſtion; not only that the ſteam into which a part of the liquor is reſolved by the heat, is, by means of a proper diſpoſition of the veſſels, condenſed, and conveyed back again upon the ſubject. Digeſtion is uſually performed in a matraſs bolt-head, Florence flaſk, or the like; either of which may be converted into a circulatory veſſel, by inverting another into the mouth of it, and ſecuring the juncture with a piece of wet-bladder. A ſingle matraſs, if its neck be very long and narrow, will anſwer the purpoſe as effectually; the vapour cooling and condenſing before it can riſe to the top: in a veſſel of this kind, even ſpirit of wine, one of the moſt volatile liquors we know, may be boiled without any conſiderable loſs. The uſe of this inſtrument is likewiſe free from the inconvenience which may in ſome caſes attend the other, of the uppermoſt veſſel being burſt or thrown off. As the long necked matraſſes here recommended are difficultly filled or emptied, and likewiſe very dear, a long glaſs tube may be occaſionally luted to thoſe with ſhorter necks.

Heat greatly expedites extraction; but by this means proves as injurious to ſome ſubſtances, by occaſioning the menſtruum to take up their groſſer and more ungrateful parts, as it is neceſſary for enabling it to extract the virtues of others. Thus guaiacum and logwood impart little to aqueous liquors without a boiling heat; while even a ſmall degree of warmth proves greatly prejudicial to the fine bitter of carduus benedictus. This plant, which infuſed in boiling or digeſted in ſenſibly hot water, gives out a nauſeous taſte ſo offenſive to the ſtomach as to promote vomiting, yields to cold water a grateful balſamic bitter.

As heat promotes the diſſolving power of liquids; ſo cold, on the other hand, diminiſhes it. Hence tinctures or extractions made by a conſiderable heat, depoſite in cold weather a part of their contents, and thus become proportionally weaker: a circumſtance which deſerves particular regard.

SECT. III.

DEPURATION.

THERE are different methods of *depurating* or purifying liquors from their feculencies, according as the liquor itſelf is more or leſs tenacious, or the feculent matter of greater or leſs gravity.

Thin fluids readily depoſite their more ponderous impurities by ſtanding at reſt for ſome time in a cool place; and may then be *decanted*, or poured off clear, by inclining the veſſel.

Glutinous, unctuous, or thick ſubſtances, are to be liquefied by a ſuitable heat; when the groſſer feculencies will fall to the bottom; and the lighter ariſing to the ſurface, may be *deſpumated* or ſcummed off.

Where the impurities are neither ſo ponderous as to ſubſide freely to the bottom, nor ſo light as to ariſe readily to the ſurface, they may be ſeparated in great meaſure by *colature* through ſtrainers of linen, woollen, or other cloth, and more perfectly by *filtration* through a ſoft bibulous kind of paper made for this purpoſe.

The grey paper, which covers pill boxes as they come from abroad, is one of the beſt for this purpoſe; it does not eaſily break when wetted, or tinge the liquor which paſſes through it, which the reddiſh ſort called *bloſſom paper* frequently does. The paper is ſupported by a funnel, or piece of canvas fixed in a frame. When the funnel is uſed it is convenient to put ſome ſtraws, ſmall ſticks, or ſlender glaſs rods, between the paper and its ſides, to prevent the weight of the liquor from preſſing the paper ſo cloſe to it, as not to allow room for the fluid to tranſude. In ſome caſes a funnel made of wire is put between the paper and the glaſs funnel. There is alſo a kind of glaſs funnel with ridges down its ſides made on purpoſe for this uſe.

Glutinous and unctuous liquors, which do not eaſily paſs through the pores of a filter or ſtrainer, are *clarified* by beating them up with whites of eggs; which concreting and growing hard when heated, and entangling the impure matter, ariſe with it to the ſurface: the mixture is to be gently boiled till the ſcum begins to break, when the veſſel is to be removed from the fire, the cruſt taken off, and the liquor paſſed through a flannel bag.

Decantation, colature, and filtration, are applicable to moſt of the medicated liquors that need purification. Deſpumation and clarification very rarely have place; ſince theſe, along with the impurities of the liquor, frequently ſeparate its medicinal parts. Thus, if the decoction of poppy heads, for making diacodum, be ſollicitouſly ſcummed or clarified, the medicine will loſe almoſt all the virtue that the poppies communicated; and inſtead of a mild opiate, turns out little other than a plain ſyrup of ſugar.

It may be proper to obſerve, that the common ſorts of filtering paper are apt to communicate a diſagreeable flavour: and hence in filtering fine bitters or other liquor, whoſe gratefulneſs is of conſiderable conſequence, the part which paſſes through firſt ought to be kept ſeparate for inferior purpoſes.

SECT. IV.

CRYSTALLISATION.

WATER, aſſiſted by heat, diſſolves a larger proportion of moſt ſaline ſubſtances that it can retain when cold; hence on the abatement of the heat, a part of the ſalt ſeparates from the menſtruum, and con

crete

cretes at the ſides and bottom of the veſſel. Theſe concretions, unleſs too haſtily formed by the ſudden cooling of the liquor, or diſturbed in their coaleſcence by agitation, or other ſimilar cauſes, prove tranſparent and of regular figures.

Salts, diſſolved in a large quantity of water, may be recovered from it in their cryſtalline form, by boiling down the ſolution till ſo much of the fluid has exhaled as that the remainder will be too little to keep the ſalt diſſolved, when grown perfectly cold. It is cuſtomary to continue the evaporation till the ſalt ſhews a diſpoſition to concrete even in hot water, by forming a pellicle on that part which is leaſt hot, viz. on the ſurface. If large, beautiful, and perfectly figured cryſtals are required, this point is ſomewhat too late: for if the ſalt thus begins to a coaleſce while conſiderably hot, on being removed to a cold place its particles will run too haſtily and irregularly together; the pellicle at the ſame time falling down through the liquor, proves a farther diſturbance to the regularity of the cryſtalliſation.

In order to perform this proceſs in perfection, the evaporation muſt be gentle, and continued no longer than till ſome drops of the liquor, let fall on a cold glaſs plate, diſcover cryſtalline filaments. When this mark of ſufficient exhalation appears, the veſſel is to be immediately removed from the fire into a leſs warm, but not cold place, and covered with a cloth to prevent the acceſs of cold air, and conſequently the formation of a pellicle.

The fixed alkalies, eſpecially the mineral, when fully ſaturated with fixed air or the aërial acid, aſſume a cryſtalline form; but theſe cryſtals are not ſo perfect as when the ſame alkalies are united with the other acids; the volatile alkalies cannot cryſtalliſe by the method juſt deſcribed, becauſe they eſcape before the menſtruum exhales.

Some even of the other neutral ſalts, particularly of thoſe which certain metallic bodies are the baſis, are ſo ſtrongly retained by the aqueous fluid, as not to exhibit any appearance of cryſtalliſation, unleſs ſome other ſubſtance be added, with which the water has a greater affinity. The Table of Affinity ſhews that ſpirit of wine is ſuch a ſubſtance; by the prudent addition of which, theſe kinds of ſalts ſeparate freely from the menſtruum, and form large and beautiful cryſtals ſcarcely obtainable by any other means.

The operator muſt be careful not to add too much of the ſpirit; leſt, inſtead of a gradual and regular cryſtalliſation, the ſalt be haſtily precipitated in a powdery form. One twentieth part of the weight of the liquor will in moſt caſes be a ſufficient, and in ſome too large a quantity.

Different ſalts require different quantities of water to keep them diſſolved: and hence a mixture of two or more diſſolved in this fluid, they will begin to ſeparate and cryſtalliſe at different periods of the evaporation. On this foundation, ſalts are freed, not only from ſuch impurities as water is not capable of diſſolving and carrying through the pores of a filter, but likewiſe from admixture of each other; that which requires moſt water to diſſolve ſhooting firſt into cryſtals.

It is proper to remark, that a ſalt, when cryſtalliſing, ſtill retains, and combines with, a certain portion of water: this water is not eſſential to the ſalt as a ſalt, but is eſſential to a ſalt as being cryſtalliſed; it is therefore called by the chemiſts the *water of cryſtalliſation*. The quantity of this water varies in different ſalts: In ſome of them, as in Glauber's ſalt, alum, and copperas, it makes up about one half of their weight; in others, as in nitre, common ſalt, and eſpecially ſelenites, it is in very ſmall quantity. As ſalts unite to the water of their cryſtalliſation by their attraction for water alone, we accordingly find that this water is perfectly pure, and contains in complete cryſtals, no ſubſtance foreign to the ſalts. Salts not only differ in the quantity of water neceſſary to their ſolution, but ſome of them are alſo ſoluble with equal facility in cold as in hot water. Sometimes, then, we employ evaporation; ſometimes cooling; and at other times both theſe expedients are uſed alternately, to ſeparate different ſalts diſſolved in the ſame liquor. It is obvious, that thoſe which are nearly or equally ſoluble in cold as in boiling water, can only be cryſtalliſed by evaporation; thoſe again which are much more ſoluble in boiling than in cold water, are to be ſeparated by cooling. Of the firſt of theſe is common or muriatic ſalt: of the latter is nitre or ſaltpetre. To ſeparate theſe two ſalts, when both of them happen to be diſſolved in the ſame water, we have recourſe to alternate evaporation and cooling. If in ſuch a ſolution a pellicle appears in the boiling liquor before cryſtals can be formed in cooling, we then conclude that the common ſalt predominates: In this caſe we evaporate the water, and ſeparate the common ſalt as faſt as it is formed, till the liquor on cooling ſhows cryſtals of nitre: we then allow the nitre to cryſtalliſe by cooling. After all the nitre which had been diſſolved by the heat alone, has now ſeparated by cooling, we reſume the evaporation, and ſeparate the common ſalt, till the cooling liquor again ſhews cryſtals of nitre. We thus repeat the ſame ſeries of operations, by which means theſe two ſalts may be alternately cryſtalliſed; the one by evaporation, the other by cooling, till they are perfectly ſeparated from each other. If in the beginning of the operation the liquor had, upon trial, given cryſtals of nitre by cooling, before any pellicle appeared on its ſurface when boiling, this would have indicated that the nitre was predominant in the ſolution; the nitre in this caſe would have been cryſtalliſed, firſt by cooling till the quantity of nitre exceeding that of the common ſalt having been ſeparated, the common ſalt would next have cryſtalliſed in its turn by evaporation. The example we have now given may be applied to other ſalts, or to a number of ſalts which may happen to be diſſolved in the ſame liquor. For though there are few ſo completely ſoluble in cold water as common ſalt, and few ſo ſcantily as nitre; yet there are ſcarcely two ſalts who either preciſely ſhew the ſame ſolubility or the ſame appearance of their cryſtals. It is obvious, too, that by cryſtalliſation we diſcover the peculiar predominant ſalt in any ſolution of mixed ſaline matter; but as one ſalt always takes down a ſmall portion of another, it is neceſſary to rediſſolve the firſt products, and repeat the cryſtalliſation, in order to render the ſeparation complete.

We ſee, then, that though the cryſtal appearance and form does not alter the ſalt itſelf, yet that this proceſs affords an elegant method of diſcovering compound ſolutions of ſalts, of judging their purity, and, laſtly of ſeparating different ſalts from each other. Cryſtalliſation, therefore, is one of the moſt important agents in pharmacy, and ought to be well underſtood. We ſhall attempt to explain the particular management in cryſtalliſing particular ſalts, when we come to treat of each ſeparately.

SECT. V.

PRECIPITATION.

BY this operation, bodies are recovered from their ſolutions, by means of the addition of ſome other ſubſtance, with which either the menſtruum, or the body diſſolved, have a greater affinity than they have with each other.

Precipitation, therefore, is of two kinds; one, where the ſubſtance ſuperadded unites with the menſtruum, and occaſions that which was before diſſolved to be thrown down; the other, in which it unites with the diſſolved body, and falls with it to the bottom. Of the firſt, we have an example in the precipitation of ſulphur from alkaline lixivia by the means of acids; of the ſecond, in the precipitation of mercury from aquafortis by the muriatic acid.

The ſubjects of this operation, as well thoſe which are capable of being precipitated as thoſe which precipitate them, will readily appear by the Table of Attractions. The manner of performing it is ſo ſimple, as to need no particular directions; all that is required, is to add the precipitant by degrees, as long as it continues to occaſion any precipitation. When the whole of the powder has fallen, it is to be well *edulcorated*, that is, waſhed in ſeveral freſh parcels of water, and afterwards dried for uſe.

When metals are employed as precipitants, as in the purification of martial vitriol from copper by the addition of freſh iron, they ought to be perfectly clean and free from any ruſty or greaſy matter: otherwiſe they will not readily, if at all, diſſolve, and conſequently the precipitation will not ſucceed; for the ſubſtance to be precipitated ſeparates only by the additional one diſſolving and taking its place. The ſeparated powder, often, inſtead of falling to the bottom, lodges upon the precipitant; from which it muſt be occaſionally ſhaken off, for reaſons ſufficiently obvious.

Though, in this operation, the precipitated powder is generally the part required for uſe, yet ſome advantage may be frequently made of the liquor remaining after the precipitation. Thus when fixed alkaline ſalt is diſſolved in water, and ſulphur diſſolved in this lixivium; the addition of acids ſeparates and throws down the ſulphur, only in virtue of the acid uniting with, and neutralizing the alkali by which the ſulphur was held diſſolved: conſequently, if the precipitation be made with the vitriolic acid, and the acid gradually dropt in till the alkali be completely ſaturated, that is, as long as it continues to occaſion any precipitation or turbidneſs, the liquor will yield, by proper evaporation and cryſtalliſation, a neutral ſalt, compoſed of the vitriolic acid and fixed alkali, that is, vitriolated tartar. In like manner, if the precipitation be made with the nitrous acid, a true nitre may be recovered from the liquor: if with the muriatic, the ſalt called cubic nitre; and if with the acid of vinegar, the kali acetata.

SECT. VI.

EVAPORATION.

EVAPORATION, the third method of recovering ſolid bodies from their ſolutions, is effected by the means of heat; which *evaporates* the fluid part, and the matter which was diſſolved therein is left behind in its ſolid form.

The general rules for evaporation are, To place the matter in a flat, ſhallow wide veſſel, ſo that a large ſurface of the liquor may be preſented to the air: for it is only from the ſurface that evaporation takes place. The degree of heat ought to be proportioned to the volatility of the ſubſtance to be evaporated, and to the degree of the fixity of the matter to be left: Thus, the leſs fixed the matter to be left is, and the more ſtrongly it adheres to the volatile parts, the leſs the degree of heat ought to be; and in ſuch caſes, too, a forcible current of air is ſometimes ſcarcely admiſſible: On the contrary, when the matter to be evaporated is not very volatile, and when the matter to be left is very fixed, and does not adhere ſtrongly to the volatile part, the evaporation may be urged by a ſtrong heat, aided by a current of air directed upon the ſurface of the liquor.

This proceſs applicable to the ſolutions of all thoſe ſubſtances which are leſs volatile than the menſtruum, or which will not exhale by the heat, requiſite for the evaporation of the fluid: as the ſolutions of fixed alkaline ſalts; of the gummy, gelatinous, and other inodorous parts of vegetables and animals in water; and of many reſinous and odorous ſubſtances in ſpirit of wine.

Water extracts the virtues of ſundry fragrant aromatic herbs, almoſt as perfectly as rectified ſpirit of wine: but the aqueous infuſions are far from being equally ſuited to this proceſs with thoſe made in ſpirit; water carrying off the whole odour and flavour of the ſubject, which that lighter liquor leaves entire behind it. Thus a watery infuſion of mint loſes in evaporation the ſmell, taſte, and virtues, of the herb; while a tincture drawn with pure ſpirit, yields, on the ſame treatment, a thick balſamic liquid, or ſolid gummy reſin, extremely rich in the peculiar qualities of the mint.

In evaporating theſe kinds of liquors, particular care muſt be had, towards the end of the proceſs, that the heat be very gentle: otherwiſe the matter as it grows thick will burn to the veſſel, and contract a diſagreeable ſmell and taſte: this burnt flavour is called *empyreuma.* The liquor ought to be kept ſtirring during the evaporation; otherwiſe a part of the matter concretes on the ſurface expoſed to the air, and forms a pellicle which impedes the farther evaporation. More particular directions for performing this operation to the greateſt advantage will be given hereafter.

SECT. VII.

DISTILLATIONS.

IN the foregoing operation fluids are rarefied by heat into ſteam or vapour, which is ſuffered to exhale in the air, but which it is the buſineſs of diſtillation to collect and preſerve. For this purpoſe the ſteam is received in proper veſſels, and being there cooled, condenſes into a fluid form again.

There are two kinds of diſtillation; by the one, the more ſubtile and volatile parts of liquors are elevated from the groſſer; by the other liquids incorporated with ſolid bodies are forced out from them with vehemence by fire.

To the firſt belong, the diſtillation of the pure inflammable ſpirit from vinous liquors: and of ſuch of the active parts of vegetables as are capable of being extracted by boiling water or ſpirit, and at the ſame time of ariſing along with their ſteam.

As boiling water extracts or diſſolves the eſſential oils of vegetables, while blended with the other principles of the ſubject, without ſaturation, but imbibes only a determinate, and that a ſmall proportion of them, in their pure ſtate; as theſe oils are the only ſubſtances, contained in common vegetables, which prove totally volatile in that degree of heat; and as it is in them that the virtues of aromatics, and the peculiar odour and flavour of all plants reſide; it is evident, that water may be impregnated by diſtillation, with the more volatile parts of many vegetables: that this impregnation is limited, the oil ariſing in this proceſs pure from thoſe parts of the plant which before rendered it ſoluble in water without limitation: hence greateſt part of the oil ſeparates from the diſtilled aqueous liquor, and, according to its greater or leſs gravity, either ſinks to the bottom or ſwims on the ſurface: that conſequently infuſions and diſtilled waters are very different from each other: that the firſt may be rendered ſtronger by pouring the liquor on freſh parcels of the ſubject; but that the latter cannot be in like manner improved by *cohobating*, or re-diſtilling them from freſh agents.

As the oils of many vegetables do not freely diſtil with a leſs heat than that in which water boils; as rectified ſpirit of wine is not ſuſceptible of this degree of heat; and as this menſtruum totally diſſolves theſe oils in their pure ſtate; it follows, that ſpirit elevates far leſs from moſt vegetables than water; but that nevertheleſs the diſtilled ſpirit, by keeping all that it does elevate perfectly diſſolved, may, in ſome caſes, prove as ſtrong of the ſubject as the diſtilled water. The more gentle the heat, and the ſlower the diſtillation goes on, the volatile parts are the more perfectly ſeparated in their native ſtate.

The apparatus uſed for diſtilling ſpirits, waters, and oils, conſiſts of a *ſtill*, or copper veſſel, for containing the ſubject, on which is luted a large *head* with a *ſwan-neck*. The vapour ariſing into the head, is thence conveyed through a *worm*, or long ſpiral pipe, placed in a veſſel of cold water

ter called a *refrigeratory*; and being there condenſed, runs down into a *receiver*. (See *fig.* 4. PLATE III.)

It may be obſerved, that as the parts which are prepared in evaporation cannot ariſe in diſtillation, the liquor remaining after the diſtillation, properly depurated and inſpiſſated, will yield the ſame extracts as thoſe prepared from the tincture or decoction of the ſubject made on purpoſe for that uſe; the one of theſe operations collecting only the volatile parts, and the other the more fixed: ſo that where one ſubject contains medicinal parts of both kinds, they may thus be obtained diſtinct, without one being injured by the proceſs which collects the other.

THE ſubjects of the ſecond kind of diſtillation are, the groſs oils of vegetables and animals, the mineral acids, and the metallic fluid quickſilver: which, as they acquire a much ſtronger degree of heat to elevate them than the foregoing liquors can ſuſtain, ſo they likewiſe condenſe without ariſing ſo far from the action of the fire. The diſtillation of theſe is performed in low glaſs veſſels, called, from their neck being bent to one ſide, *retorts:* to the farther end of the neck a *receiver* is luted, which ſtanding without the furnace, the vapours ſoon condenſe in it, without the uſe of a refrigeratory: (ſee *fig.* 3. PLATE III. and R fig. 2. PLATE II.) nevertheleſs, to promote this effect it is uſual, eſpecially in warm weather, to cool the receiver, by occaſionally applying wet clothes to it, or keeping it partly immerſed in a veſſel of cold water.

The vapours of ſome ſubſtances are ſo ſluggiſh, or ſtrongly retained by a fixed matter, as ſcarcely to ariſe even over the low neck of the retort. Theſe are moſt commodiouſly diſtilled in ſtreight necked earthen veſſels, called *long necks*, laid on their ſide, ſo that the vapour paſſes off laterally with little or no aſcent: a receiver is luted to the end of the neck without the furnace. In this manner, the vitriolic acid was diſtilled. The matter which remains in the retort or long-neck, after the diſtillation, is vulgarly called *caput mortuum*.

In theſe diſtillations, a quantity of elaſtic air is frequently generated: which, unleſs an exit be allowed, blows off or burſts the receiver. The danger of this may be prevented, by leaving a ſmall hole in the luting, to be occaſionally opened or ſtopt with a wooden plug, or by fitting to the apparatus other veſſels, by which the vapours may be condenſed, or conveyed away.

SECT. VIII.

SUBLIMATION.

AS all fluids are volatile by heat, and conſequently capable of being ſeparated, in moſt caſes, from fixed matters, by the foregoing proceſs; ſo various ſolid bodies are ſubjected to a ſimilar treatment. Fluids are ſaid to *diſtil*, and ſolids to *ſublime;* though ſometimes both are obtained in one and the ſame operation. If the ſubliming matter concretes into a ſolid hard maſs, it is commonly called a *ſublimate;* if into a powdery form, *flowers*.

The principal ſubjects of this operation are, volatile alkaline ſalts; neutral ſalts, compoſed of volatile alkalies and acids, as ſal ammoniac; the ſalt of amber, and flowers of benzoin; mercurial preparations; and ſulphur. Bodies of themſelves not volatile, are frequently made to ſublime by the mixture of volatile ones: thus iron is carried up by ſal ammoniac in the preparation of the *flores martiales*, or *ferrum ammoniacale*.

The fumes of ſolid bodies in cloſe veſſels riſe but a little way, and adhere to that part of the veſſel where they concrete. Hence a receiver or condenſer is leſs neceſſary here than in the preceding operation; a ſingle veſſel, as a *matraſs*, or tall *vial*, or the like, being frequently ſufficient.

SECT. IX.

Expression.

THE *preſs* is chiefly uſed for forcing out the juices of ſucculent herbs and fruits, and the inſipid oils of the unctuous ſeeds and kernels.

The harder fruits, as quinces, require to be previouſly well beat or ground; but herbs are to be only moderately bruiſed. The ſubject is then included in a hair-bag, and preſſed between wooden plates, in the common ſcrew-preſs, as long as any juice runs from it.

The expreſſion of oils is performed nearly in the ſame manner as that of juices; only here, iron plates are ſubſtituted for the wooden ones. The ſubject is well pounded, and included in a ſtrong canvaſs bag, between which, and the plates of the preſs, a haircloth is interpoſed.

The inſipid oils of all the unctuous ſeeds are obtained uninjured, by this operation, if performed without heat; which, though it greatly promotes the extraction of the oil, at the ſame time gives an ungrateful flavour, and increaſes the oil's diſpoſition to grow rancid.

The oils expreſſed from aromatic ſubſtances generally carry with them a portion of their eſſential oil; hence the ſmell and flavour of the expreſſed oils of nutmegs and mace. They are very rarely found impregnated with any of the other qualities of the ſubject: oil of muſtard-ſeed, for inſtance, is as ſoft and void of acrimony as that of the almond, the pungency of the muſtard remaining entire in the cake left after the expreſſion.

SECT. X.

Exsiccation.

THERE are two general methods of exſiccating or drying moiſt bodies; in the one, their humid parts are exhaled by heat; in the other, they are imbibed or abſorbed by ſubſtances, whoſe ſoft and ſpongy texture adapts them to that uſe. Bodies intimately combined with, or diſſolved in a fluid, as recent vegetables and their juices, require the firſt; ſuch as are only ſuperficially mixed, as when earthy or indiſſoluble powders are ground with water, are commodiouſly ſeparated from it by the ſecond.

Vegetables and their parts are uſually exſiccated by the natural warmth of the air ; the aſſiſtance of a gentle artificial heat may nevertheleſs, in general be not only ſafely, but advantageouſly had recourſe to. By a moderate fire, even the more tender flowers may be dried, in a little time, without any conſiderable loſs, either of their odour, or lively colour ; which would both be greatly injured or deſtroyed by a more ſlow exſiccation in air. Some plants indeed, particularly thoſe of the acrid kind, as horſe-radiſh, ſcurvy-graſs, and arum, loſe their virtues by this proceſs, however carefully performed ; but far the greater number retain them unimpaired, and often improved.

The thicker vegetable juices may be exſiccated by the heat of the ſun ; or, where this is not ſufficient, by that of a water-bath, or an oven moderately warm. The thinner juices may be gently boiled till they begin to thicken, and then treated as the foregoing. The proceſs termed *inſpiſſation*, or *evaporation*, has been ſpoken of already. The juices of ſome plants, as arum-root, briony-root, orris-root, wild cucumbers, &c. ſeparate, on ſtanding for ſome time, into a thick part which falls to the bottom ; and a thin aqueous one which ſwims above it : this laſt is to be poured off, and the firſt exſiccated by a gentle warmth. Preparations of this kind have been uſually called *feculæ ;* that of the cucumber, to be ſpoken of in its place, is the only one which practice now retains.

Indiſſoluble bodies, mixed with water into a thick conſiſtence, may be eaſily freed from the greateſt part of it, by dropping them on a *chalk-ſtone*, or ſome powdered chalk preſſed into a ſmooth maſs, which readily imbibes their humidity. Where the quantity of fluid is large, as in the edulcoration of precipitates, it may be ſeparated by decantation or filtration.

We obſerved before, that one of the principal circumſtances favouring fermentation, was a certain degree of moiſture. Exſiccation is therefore employed to diſſipate humidity, and render vegetables thereby leſs liable to thoſe changes produced by a kind of inſenſible fermentation.

SECT. IX.

COMMINUTION.

COMMINUTION is the bare reduction of ſolid coherent bodies into ſmall particles or powder. The methods of effecting this are various, according to the texture of the ſubject.

Dry friable bodies, or ſuch as are brittle and not very hard, and mixtures of theſe with ſomewhat moiſt ones, are eaſily *pulveriſed* in a *mortar*.

For very light dry ſubſtances, reſins, and the roots of tenacious texture, the mortar may in ſome caſes be previouſly rubbed with a little ſweet oil, or a few drops of oil be occaſionally added : this prevents the finer powder of the firſt from flying off. Camphor is commodiouſly powdered by rubbing it with a little rectified ſpirit of wine.

Tough ſubſtances, as woods, the peels of oranges and lemons, &c. are moſt conveniently *raſped ;* and ſoft oily bodies, as nutmegs, *grated*.

The comminution of the harder minerals, as calamine, cryſtal, flint &c. is greatly facilitated by *extinction ;* that is, by heating them red-hot an and quenching them in water: by repeating this proceſs a few times, moſt of the hard ſtones become eaſily pulveriſable. This proceſs, however, is not to be applied to any of the alkaline or calcareous ſtones; leſt, inſtead of an inſipid powder, we produce an acrimonious calx or lime.

Some metals, as tin, though ſtrongly cohering in their natural ſtate, prove extremely brittle when heated, inſomuch as to be eaſily divided into ſmall particles by dexterous agitation. Hence the officinal method of pulveriſing tin, by melting it, and, at the inſtant of its beginning to return into a ſtate of ſolidity, briſky ſhaking it in a wooden box. The comminution of metals, in this manner, is termed *granulation.*

On a ſimilar principle, certain ſalts, as nitre, may be reduced into powder in large quantity, by diſſolving them in boiling water, ſetting the ſolution over a moderate fire, and keeping the ſalt conſtantly ſtirring during its exſiccation, ſo as to prevent its particles, disjoined by the fluid, from reuniting together into larger maſſes.

Powders are reduced to a great degree of fineneſs by *triturating*, or rubbing them, for a length of time, in a mortar. Such as are not diſſoluble in water, or injured by the admixture of that fluid, are moiſtened with it into the conſiſtence of a paſte, and *levigated* or ground on a flat ſmooth *marble* or *iron plate*, or, what is beſt, a porphyr; or where a large quantity is to be prepared at a time, in *mills* made for that uſe.

Comminution, though one of the moſt ſimple operations of pharmacy, has, in many caſes, very conſiderable effect. The reſinous purgatives, when finely triturated, are more eaſily ſoluble in the animal fluids, and conſequently prove more cathartic, and leſs irritating, than in their groſſer ſtate. Crude antimony, which, when reduced to a tolerable fine powder, diſcovers little medicinal virtue, if levigated to a great degree of ſubtility, proves a powerful medicine in many chronical diſorders.

By comminution, the heavieſt bodies may be made to float in the lighteſt fluids, for a longer or ſhorter time, according to their greater or leſs degree of tenuity, Hence we are furniſhed with an excellent criterion of the fineneſs of certain powders, and a method of ſeparating the more ſubtile parts from the groſſer, diſtinguiſhed by the name of *elutriation*, or *waſhing over.*

SECT. XII.

Fusion.

FUSION is the reduction of ſolid bodies into a ſtate of fluidity by fire. Almoſt all natural ſubſtances, the pure earths and the ſolid parts of vegetables and animals excepted, melt in proper degrees of fire; ſome in a very gentle heat, while others require its utmoſt violence.

Turpentine, and other ſoft reſinous ſubſtances, *liquefy* in a gentle warmth; wax. pitch, ſulphur, and the mineral bitumens, require a heat too great for the hand to ſupport: fixed alkaline ſalt, common ſalt, nitre, require a red, or almoſt white, heat to melt them; and glaſs, a full white heat.

Among metallic ſubſtances, tin, biſmuth, and lead, flow long before ignition;

ignition: antimony likewiſe melts before it is viſibly red-hot, but not before the veſſel is conſiderably ſo: the regulus of antimony demands a much ſtronger fire. Zinc begins to melt in a red heat; gold and ſilver require a low white heat; copper, a bright white heat; and iron, an extreme white heat.

One body, rendered fluid by heat, becomes ſometimes a menſtruum for another, not fuſible of itſelf in the ſame degree of heat. Thus red-hot ſilver melts on being thrown into melted lead leſs hot than itſelf: and thus if ſteel, heated to whiteneſs, be taken out of the furnace, and applied to a roll of ſulphur, the ſulphur inſtantly liquefying, occaſions the ſteel to melt with it; hence the *chalybs cum ſulphure* of the ſhops. This ſubſtance, nevertheleſs, remarkably impedes the fuſion of ſome other metals, as lead: which when united with a certain quantity of ſulphur requires a very ſtrong fire for its fuſion.

Sulphur is the only unmetallic ſubſtance which mixes in fuſion with metals. Earthy, ſaline, and other like matters, even the calces and glaſſes prepared from metals themſelves, float diſtinct upon the ſurface, and form what is called *ſcoriæ* or droſs. Where the quantity of this is large in proportion to the metal, it is moſt commodiouſly ſeparated by pouring the whole into a conical mould: the pure metal or *regulus*, though ſmall in quantity occupies a conſiderable height of the lower narrow part of the cone: and when congealed, may be eaſily freed from the ſcoriæ by a hammer. The mould ſhould be previouſly greaſed, or rather ſmoked, to make the metal come freely out: and thoroughly dried and heated, to prevent the exploſion which ſometimes happens from the ſudden contact of melted metals with moiſt bodies.

SECT. XIII.

CALCINATION.

BY calcination is underſtood the reduction of ſolid bodies, by the means of fire, from a coherent to a powdery ſtate, accompanied with a change of their quality; in which laſt reſpect this proceſs differs from comminution.

To this head belong the burning of vegetable and animal matters, otherwiſe called *uſtion*, *incineration*, or *concremation;* and the change of metals into an earthy-like powder, which in the fire either does not melt, or *vitrifies*, that is, runs into glaſs.

The metals which melt before ignition, are calcined by keeping them in fuſion for ſome time. The free admiſſion of air is eſſentially neceſſary to the ſucceſs of this operation; and hence, when the ſurface of the metal appears covered with calx, this muſt be taken off or raked to one ſide, otherwiſe the remainder excluded from the air will not undergo the change intended. If any coal, or unctuous inflammable matter be ſuffered to fall into the veſſel, the effect expected from this operation will not be produced, and part of what is already calcined will be *revived* or *reduced;* that is, it will return into its original metallic ſtate again.

Thoſe metals which require a ſtrong fire for fuſion, calcine with a much leſs heat than is ſufficient to make them flow. Hence the burning or *ſcorification* of ſuch iron or copper veſſels as are long expoſed to a conſiderable fire without defence from the air. Gold and ſilver are not calcinable except in a very ſtrong degree of fire.

In calcination, the metals viſibly emit fumes: nevertheleſs the weight of the calx proves greater than that of the metal employed.

The calcination of metallic bodies, gold, ſilver, and mercury excepted, is greatly promoted by nitre. This proceſs is uſually termed *deflagration*, *detonation*.

All the metallic calces and ſcoriæ are revived into their metallic ſtate by fuſion with any vegetable or animal inflammable matter. They are all more difficult of fuſion than the reſpective metals themſelves; and ſcarcely any of them, thoſe of antimony, lead, and biſmuth excepted, can be made to melt at all, without ſome addition, in the ſtrongeſt fire that can be produced in the common furnaces. The additions called *fluxes*, employed for promoting their fuſion, conſiſt chiefly of fixed alkaline ſalts. A mixture of alkaline ſalt with inflammable matter, as powdered charcoal, is called a *reducing flux*, as contributing at the ſame time to bring the calx into fuſion, and to revive it into metal. Such a mixture is commonly prepared from one part of nitre, and two parts of tartar, by grinding them well together, ſetting the powders on fire with a bit of coal or red-hot iron, then covering the veſſel, and ſuffering them to deflagrate or burn till they are changed into a black alkaline coally maſs. This is the common reducing flux of the chemiſts, and is called from its colour the *black flux*. Metallic calces or ſcoriæ, mixed with twice their weight of this compound, and expoſed to a proper fire in a cloſe covered crucible, melt and reſume their metallic form.

PART II.

MATERIA MEDICA.

THE MATERIA MEDICA comprehends all thoſe ſubſtances, whether natural, or artificial, that are employed in medicine.

Much pains have been beſtowed by the writers on the materia medica, in attempting to form uſeful arrangements of theſe articles. Some have arranged them according to their natural affinities; others according to their active conſtituent parts; and a third ſet, according to their real or ſuppoſed virtues. It muſt indeed be allowed, that ſome of theſe arrangements are not without conſiderable uſe, as throwing light upon the nature and qualities of particular articles; but no arrangement has yet been propoſed which is not liable to numerous objections. Accordingly, in the Pharmacopœias publiſhed by the Colleges of Phyſicians both of London and Edinburgh, the articles of the materia medica are arranged in alphabetical order; and the ſame plan is alſo now adopted in almoſt every Pharmacopœia of eſtimation lately publiſhed on the continent of Europe. This plan, therefore, we ſhall here follow; ſubjoining to the name of each article which we think ought to enter ſuch a liſt, a ſhort view of its natural, medical, and pharmaceutical hiſtory.

ABELMOSCHUS [*Brun.*] *Semina.*

Hibiſcus Abelmoſchus Linnæi.

Muſk ſeed.

Theſe ſeeds are the product of a plant indigenous in Egypt, and in many places both of the Eaſt and Weſt Indies. They are of a ſmall ſize, and reniform ſhape: they are very remarkable for poſſeſſing a peculiar and very fragrant odour; the ſmell which they give out may be compared to that of muſk and amber conjoined: thoſe brought from the iſland of Martinico are generally eſteemed the moſt odorous, but we have ſeen ſome the product of hot-houſes in Britain, which, in point of flavour, ſeemed not inferior to any imported from abroad.

Theſe ſeeds, although introduced into ſome of the foreign pharmacopœias, have hitherto been principally, if not only, uſed as a perfume; and as their medicinal powers ſtill remain to be aſcertained, it is perhaps with propriety that hitherto no place has been given them in the liſt either of the London or Edinburgh Colleges. But their peculiar flavour, as well as other ſenſible qualities, point them out as a ſubject well deſerving a particular inveſtigation.

ABIES [*Gen.*] *Summitates coni.*

Pinus Abies & Pinus ſylveſtris Lin.

The common and the Scotch fir.

Theſe are large evergreen trees, frequent in northern climates. Tho' they have now no place either in the London or Edinburgh Pharmacopœias, yet they ſtand in ſeveral of the foreign ones, and are employed for different purpoſes in medicine. They are indigenous in ſome parts of Britain, but are chiefly to be met with in plantations, where they grow with great luxuriance. From theſe trees in different parts of Germany, the Straſburgh turpentine is extracted. The branches, and the fruit or cones, gathered about the end of autumn, abound with a reſinous matter, and yield, on diſtillation, their eſſential oil, and a liquor impregnated with a peculiar acid. It has been ſtiled *acidum abietis;* and when added to water, is thought to communicate to it both the taſte and other properties of tar-water. The acidum abietis was frequently preſcribed by the late Dr Hope in the Royal Infirmary of Edinburgh; and he thought that he found good effects from it in ſome inſtances of obſtinate coughs, particularly in thoſe caſes of chronic catarrh, which are often benefited by diuretics. The wood and tops of the fir-tree are ſometimes employed under the form of decoction or infuſion, with the view of promoting urine and ſweat; and theſe formulæ have been thought ſerviceable in healing internal ulcerations, particularly thoſe of the urinary paſſages.

Infuſions of the ſpruce-fir are much employed in Canada, with a view both to the prevention and cure of genuine ſcorbutus. And we are told, that with theſe intentions they were found beneficial in the Britiſh army at Boſton, when the ſcurvy prevailed in an alarming degree.

ABROTANUM [*Lond.*] *Folium.* [*Ed.*] *Herba.*

Artemiſia Abrotanum Lin.

Southernwood.

This is a ſhrubby plant, cloathed with very finely divided leaves of a light green colour. The flowers, which are very ſmall and yellowiſh, hang downwards, ſeveral together, from the middle of the branches to the top. It is not, like ſome other ſpecies of the artemiſia, indigenous in Britain; but though a native of warm climates, it readily bears the viciſſitudes of ours, and is eaſily cultivated in gardens; from thence alone it is obtained when employed for medical purpoſes: the leaves fall off every winter, but the roots and ſtalks continue for many years.

Southernwood has a ſtrong ſmell, which, to moſt people, is not diſagreeable; it has a pungent, bitter, and ſomewhat nauſeous taſte. Theſe qualities are very completely extracted by rectified ſpirit, and the tincture thus formed is of a beautiful green colour. They are leſs perfectly extracted by watery liquors, the infuſion being of a light brown colour.

Southernwood, as well as ſome other ſpecies of the ſame genus, particularly the abſinthium and ſantonicum, has been recommended as an anthelmintic; and it has alſo been ſometimes uſed as a ſtimulant, detergent, and ſudorific. It has likewiſe been employed externally in diſcutient and antiſeptic fomentations. It has alſo been uſed under the form of lotion and ointment for cutaneous eruptions, and for preventing the hair from falling off. Bnt although it ſtill retains a place in the pharmacopœias both of London and Edinburgh, it does not enter any fixed formula in either of theſe works, and is at preſent very little employed in practice.

ABSINTHIUM MARITIMUM [*Lond.*] *Cacumen.*

Artemiſia maritima Lin.

Sea-wormwood, the tops.

The leaves of ſea-wormwood are much ſmaller than thoſe of the common: they are hoary on the upper ſide as well as the lower; the ſtalks alſo are hoary all over. It grows wild about ſalt marſhes, and ſeveral parts about the ſea coaſts.—In taſte and ſmell it is weaker and leſs unpleaſant than the common wormwood. The tops of ſea wormwood formerly entered ſome of the compound diſtilled waters; but they are now rejected, and are very little employed in practice.

ABSINTHIUM VULGARE [*Lond.*] *herba.*

ABSINTHIUM [*Edin.*] *Summitates florentes.*

Artemiſia Abſinthium Lin.

Common wormwood; the leaves and flowering tops.

The leaves of this ſort of wormwood are divided into roundiſh ſegments, of a dull green colour above, and whitiſh underneath. It grows wild in ſeveral parts of Britain; about London, large quantities are cultivated for medicinal uſe; it flowers in June and July; and after having ripened its ſeeds, dies down to the ground, except a tuft of the lower leaves, which generally abides the winter.

Wormwood is a ſtrong bitter; and was formerly much uſed as ſuch againſt weakneſs of the ſtomach, and the like, in medicated wines and ales; but its uſe with theſe intentions, is exceptionable, on account of the ill reliſh and offenſive ſmell with which it is accompanied. It may be freed from theſe qualities partly by keeping, and totally by long coction, the bitter remaining entire. An extract made by boiling the leaves in a large quantity of water, and evaporating the liquor, proves a bitter ſufficiently grateful, without any diſguſtful flavour. This extract, which had formerly a place in the Edinburgh pharmacopœia, is ſtill retained in ſome of the beſt foreign ones: but it is probably leſs active than the ſtrong tincture now directed by the Edinburgh college.

ACACIA VERA [*Brun.*]
Mimoſa nilotica Lin.

Acacia is the inſpiſſated juice of the unripe fruit of the ſame tree which produces the gum arabic.

This juice is brought to us from Egypt in roundiſh maſſes, wrapt up in thin bladders. It is outwardly of a deep brown colour, inclining to black; inwardly of a reddiſh or yellowiſh brown; of a firm conſiſtence but not very dry. It ſoon ſoftens in the mouth, and diſcovers a rough, not diſagreeable taſte, which is followed by a ſweetiſh reliſh. This inſpiſſated juice entirely diſſolves in watery liquors; but rectified ſpirit of wine ſcarcely produces any effect on it.

Acacia is a mild aſtringent medicine. The Egyptians give it in ſpitting of blood, to the quantity of a drachm, diſſolved in any convenient liquor; and repeat this doſe occaſionally: they likewiſe employ it in collyria for ſtrengthening the eyes, and in gargariſms for quinſeys. Among us it is little uſed, and is rarely met with in the ſhops. What is uſually ſold for the Egyptian acacia, is the inſpiſſated juice of unripe ſloes: this is harder, heavier, of a darker colour, and ſomewhat ſharper taſte, than the true ſort. In ſeveral pharmacopœias, as in the Suecica, and Genevenſis, this inſpiſſated ſloe juice has a place under the title of Acacia Noſtras.

ACETOSA [*Lond.*] *Folium.* [*Edin.*] *Folia.*
Rumex Acetoſa Lin.

Sorrel; the leaf.

Sorrel grows wild in fields and meadows throughout Britain. The leaves have a reſtringent acid taſte, without any ſmell or particular flavour: their medical effects are, to cool, quench thirſt, and promote the urinary diſcharge: a decoction of them in whey affords an uſeful and agreeable drink in febrile or inflammatory diſorders: and is recommended by Boerhaave to be uſed in the ſpring as one of the moſt efficacious aperients and detergents. Some kinds of ſcurvies have yielded to the continued uſe of this medicine: the Greenlanders, who are very ſubject to this diſtemper, are ſaid to employ with good ſucceſs a mixture of the juices of ſorrel and of ſcurvygraſs.

The roots of ſorrel have a bitteriſh auſtere taſte, without any acidity: they are ſaid to be deobſtruent and diuretic. They had formerly a place in the Edinburgh pharmacopœia, but are now rejected from it. They are ſtill, however, retained in the pharmacopœia Suecica, and ſome other of the beſt foreign ones: but they have little other effect than of giving a reddiſh colour to the articles with which they are combined.

The ſeeds of this plant were formerly uſed in diarrhœas and dyſenteries; but have long been ſtrangers to the ſhops, and are now juſtly expunged both from the London and Edinburgh pharmacopœias, and indeed from moſt of the foreign ones. They have no remarkable ſmell, and ſcarcely any taſte.

ACETUM VINI [*Ed.*]

Vinegar; an acid produced from fermented vinous liquors by a ſecond fermentation.

Wine vinegar is conſiderably purer than that prepared from malt liquors; the latter, however acid and fine, contains a large portion of a viſcous mucilaginous ſubſtance; as is evident from the ropineſs and ſlimineſs to which this kind of vinegar is very much ſubject; the ſtronger and more ſpiritous the wine, the better and ſtronger vinegar it yields. The French vinegars are ſaid by Geoffrey to ſaturate above one thirty-fifth of their weight of fixed alkaline ſalt, and ſome of them no leſs than one-twelfth; the beſt of the German vinegars little more than one-fortieth.

Vinegar is a medicine of excellent uſe in all kinds of inflammatory and putrid diſorders, either internal or external: in ardent, bilious fevers, peſtilential and other malignant diſtempers, it is recommended by Boerhaave as one of the moſt certain ſudorifics. Weakneſs, fainting, vomiting, hiccup, hyſterical and hypochondriacal complaints, have been frequently relieved by vinegar applied to the mouth and noſe, or received into the ſtomach. It has been uſed internally in rabies canina. It is often uſefully employed as a powerful menſtruum for extracting the virtues of other articles.

ACIDUM VITRIOLICUM. [*Lond. Ed.*]

Vitriolic acid.

This is inſerted in the Materia Medica on account of its being generally made, not by the apothecary, but by the trading chemiſt, and moſt commonly from ſulphur. The operation is performed in leaden veſſels, ſometimes 20 feet high and 10 broad; with an eighth part of nitre to ſupply the abſence of the external air, and ſome water to condenſe the ſteams. It is concentrated and conſiderably purified by evaporation. It is then colourleſs, without ſmell, extremely corroſive, very fixed, and the moſt ponderous of all unmetallic fluids. Its ſpecific gravity, according to both the London and Edinburgh Colleges, ſhould be to that of diſtilled water as 185 to 100. It powerfully attracts water from the air, and in uniting with water produces a great degree of heat. It poſſeſſes the general properties of acids in an eminent degree.

On account of its fluidity, it is not uſed as a corroſive. Blended with unctuous matter in the proportion of one to eight, it is applied in itch and other chronic eruptions, and likewiſe as a rubefacient in local palſy and rheumatiſm. Diluted with water, it ſhews conſiderable action on the human calculus out of the body; and therefore has been propoſed internally in that diſeaſe, particularly where ſurgical operation is improper. As checking fermentation, as well as being aſtringent and tonic, it is much uſed in morbid acidity, relaxations and weakneſs of the ſtomach. Its effects are propagated over the ſyſtem; and hence its eſtabliſhed uſe in paſſive hæmorrhagies, gleets, and fevers of the typhous kind. It is alſo uſed internally in itch and other chronical eruptions; and when given to nurſes having the itch, it is ſaid to cure both themſelves and their children. As combined with ardent ſpirit, with different metallic ſubſtances, &c. it enters ſeveral articles to be mentioned afterwards.

ACONITUM [*Lond.*] *Herba;* [*Ed.*] *Folia.*

Aconitum Napellus Lin.

Large blue Wolfsbane, or Monk's-hood; the herb and leaves.

This is a perennial plant, growing naturally in various mountainous parts of Europe. The juice has a diſagreeable ſmell and an acrid taſte, becoming leſs acrid on inſpiſſation. It has long been conſidered as one of the moſt active of the vegetable poiſons, and when taken to any conſiderable extent, it occaſions ſickneſs, vomiting, purging, vertigo, delirium, fainting, cold ſweats, convulſions, and even death. Dr Stoerk of Vienna was probably the firſt who employed it for medical purpoſes; and he recommended it to the attention of other practitioners, in a treatiſe publiſhed in 1762. He repreſents it as a very effectual remedy in glandular ſwellings, venereal nodes, anchyloſis, ſpina ventoſa, itch, amauroſis, gouty and rheumatic pains, intermittent fevers, and convulſive diſorders. Stoerk's formula was two grains of the inſpiſſated juice rubbed down with two drachms of ſugar. He began with ten grains of this powder night and morning, and increaſed it gradually to ſix grains of the inſpiſſated juice twice a-day. Others have uſed a tincture made of one part of the dry leaf, and ſix parts of ſpirit of wine, in the doſe of forty drops. But although the aconitum has now a place in the Pharmacopœias both of the London and Edinburgh Colleges, and likewiſe in moſt of the other modern Pharmacopœias, yet it has by no means anſwered thoſe expectations which might have been formed from Dr Stoerk's account. It is, however, unqueſtionably a very active, and in ſome caſes an uſeful article.

ACORUS, ſee CALAMUS AROMATICUS.

ÆRUGO [*Ed*] Verdegris.

This is a preparation of copper, made chiefly at Montpelier in France, by ſtratifying copper plates with grape ſtalks that have been impregnated with a fermented vegetable acid: in a few days, the plates are found covered with a pale green downy matter, which is ſcraped off from the copper, and the proceſs again repeated. The appellation therefore of Cuprum acetatum gives a proper idea of its conſtituent parts.

Verdegris, as it comes to us, is generally mixed with ſtalks of the grape; they may be ſeparated, in pulverization, by diſcontinuing the operation as ſoon as what remains ſeems to be almoſt entirely compoſed of them.

Verdegris is never or rarely uſed internally. Some writers highly extol it as an emetic, and ſay, that a grain or two being taken acts as ſoon as received into the ſtomach; but its uſe has been too often followed by dangerous conſequences to allow of its employment. Verdegris applied externally, proves a gentle detergent and eſcharotic, and ſerves to take down fungous fleſh ariſing in wounds. With theſe intentions it is an ingredient in different officinal compoſitions.

AGARICUS [*Ed.*]
Boletus igniarius Lin.

Female agaric, or agaric of the oak, called, from its being very eaſily inflammable, Touchwood, or Spunk.

This fungus is frequently met with, on different kinds of trees, in England; and is ſaid to have been ſometimes brought into the ſhops mixt with the true agaric of the larch: from this it is eaſily diſtinguiſhable by its greater weight, duſky colour, and mucilaginous taſte void of bitterneſs. The medullary part of this fungus, beaten ſoft, and applied externally, has been much celebrated as a ſtyptic; and ſaid to reſtrain not only venal but arterial hæmorrhagies, without the uſe of ligatures. It does not appear, however, to have any real ſtyptic power, or to act any otherwiſe than dry lint, ſponge, or other ſoft fungous applications.

AGRIMONIA [*Roſ.*] *Herba.*
Agrimonia Eupatoria Lin.
Agrimony; the plant.

This is a common plant in hedges and the borders of fields The leaves have an herbaceous, ſomewhat acrid, roughiſh taſte, accompanied with an aromatic flavour. Agrimony was ſuppoſed to be aperient, detergent, and to ſtrengthen the tone of the viſcera; hence it has been recommended in ſcorbutic diſorders, in debility and laxity of the inteſtines, &c. Digeſted in whey, it affords a diet-drink, grateful to the palate and ſtomach. It is very little employed by regular practitioners, and has no place in the liſt either of the London or Edinburgh Colleges.

ALCHEMILLA [*Brun*]*Folia*
Alchemilla vulgaris Lin.
Ladies mantle; the leaves.

This plant grows wild in many parts of England: the leaves ſeem as if plaited or folded together, ſo as to have given occaſion to the Engliſh name of the plant. The leaves of the alchemilla diſcover to the taſte a moderate aſtringency, and were formerly much eſteemed in ſome female weakneſſes and in fluxes of the belly. They are now rarely uſed; though both the leaves and roots might doubtleſs be of ſervice in caſes where mild aſtringents are required.

ALKEKENGI[*Brun.*]*Baccæ.*
Phyſalis Alkekengi Lin.
Winter cherry; the berries.

This is a low, branched ſhrub, with leaves like thoſe of nightſhade; and white flowers, which ſtand ſingle at the joints. The flower cup changes into a membranous cover, which at length burſts and diſcovers a fruit of a fine red colour, about the ſize of a common cherry. The fruit ripens in October, and continues frequently to the middle of December. This plant grows wild in ſome parts of France, Germany, &c. the beauty and lateneſs of its fruit have gained it a place in our gardens.

Winter cherries have in general been repreſented by moſt writers to be extremely bitter: but, as Haller juſtly obſerves, the cherry itſelf, if carefully freed from the cover (which is very bitter and pungent), has merely a ſubacid taſte. They were formerly highly recommended as detergent, aperient, diuretic, and for expelling gravel; four, five, or more of the cherries are directed for a doſe, or an ounce of the expreſſed juice. Mr Ray tells us of a gouty perſon who was cured and kept free from returns of this diſorder, by taking eight of theſe cherries at each change of the moon; they occaſioned a copious diſcharge of extremely fetid urine.

They have not, however, ſupported this character with others; inſomuch that they have now no place either in the London or Edinburgh Pharmacopœias, and are very little employed by any Britiſh practitioner.

ALLIARIA [*Brun.*] *Herba.*
Eryſimum Alliaria Lin.
Saucealone, or jack-by-the-hedge; the plant.

Thi

This plant is common in hedges and ſhady waſte places, flowering in May and June. The leaves have a bitteriſh acid taſte; and, when rubbed between the fingers, emit a ſtrong ſmell, approaching to that of garlic. They have been recommended internally, as ſudorifics and deobſtruents, ſomewhat of the nature of garlic, but much milder; and externally, as antiſeptics in gangrenes and cancerous ulcers. Hildanus uſed to gather the herb for theſe laſt purpoſes in the ſpring, and expoſe it for a day to the action of a dry air in a ſhady place; being then committed to the preſs, it yielded a juice poſſeſſing the ſmell and taſte of the allaria: this, he informs us, with a little oil on the ſurface, keeps in perfection for years: whereas the herb in ſubſtance ſoon loſes its virtues in keeping. At preſent it is very little employed either in medicine or ſurgery.

ALLIUM [*Lond. Ed.*] *radix.*
Allium ſativum Lin.
Garlick; the root.

Theſe roots are of the bulbous kind, of an irregularly roundiſh ſhape, with ſeveral fibres at the bottom: each root is compoſed of a number of leſſer bulbs, called cloves of garlick, incloſed in one common membranous coat, and eaſily ſeparable from each other. All the parts of this plant, but more eſpecially the roots, have a ſtrong offenſive ſmell, and an acrimonious almoſt cauſtic taſte. The root applied to the ſkin inflames, and often exulcerates the part. Its ſmell is extremely penetrating and diffuſive: when the root is applied to the feet, its ſcent is ſoon diſcoverable in the breath; and taken internally, its ſmell is communicated to the urine, or the matter of an iſſue, and perſpires through the pores of the ſkin.

This pungent root ſtimulates the whole body. Hence in cold leucophlegmatic habits it proves a powerful expectorant, diuretic, and if the patient be kept warm, ſudorific; it has alſo been ſuppoſed to be emenagogue. In catarrhous diſorders of the breaſt, flatulent cholics, hyſterical, and other diſeaſes proceeding from laxity of the ſolids, it has generally good effects; it has likewiſe been found ſerviceable in ſome hydropic caſes. Sydendam relates that he has known the dropſy cured by the uſe of garlick alone; he recommends it chiefly as a warm ſtrengthening medicine in the beginning of the diſeaſe.

Garlick is alſo a favourite remedy in the cure of intermittents; and it has been ſaid to have ſometimes ſucceeded in obſtinate quartans, after the Peruvian bark had failed, particularly when taken to the extent of one or two cloves daily in a glaſs of brandy or other ſpirits.

The liberal uſe of garlick is apt to occaſion headachs, flatulencies, thirſt, febrile heats, inflammatory diſtempers, and ſometimes diſcharges of blood from the hæmorrhoidal veſſels. In hot bilious conſtitutions, where there is already a degree of irritation, and where there is reaſon to ſuſpect an unſound ſtate of the viſcera, this ſtimulating medicine is manifeſtly improper, and never fails to aggravate the diſtemper.

The moſt commodious form for taking garlick, a medicine to moſt people not a little unpleaſant, is that of a bolus or pill. Infuſions in ſpirit, wine, vinegar, and water, although containing the whole of its virtues are ſo acrimonious, as to be unfit for general uſe. A ſyrup and oxymel of it were formerly kept in the ſhops; but it does not now enter any officinal preparation in our pharmacopœias; and it is proper that even the pills ſhould always be an extemporaneous preſcription, as they ſuffer much from keeping.

Garlick made into an ointment with oils, &c. and applied externally, is ſaid to reſolve and diſcuſs cold tumors, and has been greatly eſteemed in cutaneous diſeaſes. It has likewiſe been ſometimes employed as a repellent. When applied in the form of a poultice to the pubis, it has ſometimes proved effectual in producing a diſcharge of urine, when retention has ariſen from a want of due action of the bladder; and ſome authors have recommended, in certain caſes of deafneſs, the introduction of a ſingle clove, wrapt in thin muſlin or gauze, into the meatus auditorius. Sydenham aſſures us, that among all the ſubſtances which occaſion a derivation or revulſion from the head, none operates more powerfully than garlick applied to the ſoles of the feet: hence he was led to uſe it in the confluent ſmall pox: about the eighth day after the face began to ſwell, the root cut in pieces, and tied in a linen cloth, was applied to the ſoles of the feet, and renewed once a day till all danger was over.

ALNUS [*Roſs.*] *Folia, Cortex.*
Betula Alnus Lin.

The leaves and bark of the elder tree.

They have a bitter ſtyptic diſagreeable taſte. The bark is recommended in intermittent fevers; and a decoction of it, in gargariſms, for inflammations of the tonſils; but it is little employed in modern practice.

ALOE [*Lond. Ed.*]
Aloe perfoliata Lin.
Aloes.

Aloe is the inſpiſſated juice of certain plants of the ſame name. The antients diſtinguiſhed two ſorts of aloes: the one was pure and of a yellowiſh colour inclining to a red, reſembling the colour of a liver, and thence named hepatic, the other was full of impurities, and hence ſuppoſed to be only the droſs of the better kind. At preſent, various ſorts are met with in the ſhops; which are diſtinguiſhed either from the places, whence they are brought, from the ſpecies of the plants, or from ſome differences in the juices themſelves. Three different kinds may be mentioned, although two of them have only now a place in our pharmocopœias.

(1.) ALOE SOCOTORINA [*Lond. Ed.*]

Socotorine aloes.

This article is brought from the iſland Socotora in the Indian ocean, wrapt in ſkins; it is obtained from the *variety* ξ *of Aloe perfoliata Lin.* This ſort is the pureſt of the three: it is of a gloſſy ſurface, clear, and in ſome degree pellucid: in the lump, of a yellowiſh red colour, with a purple caſt; when reduced to powder of a bright golden colour. It is hard and friable in the winter, ſomewhat pliable in ſummer, and grows ſoft between the fingers. Its taſte is bitter, accompanied with an aromatic flavour, but inſufficient to prevent its being diſagreeable; the ſmell is not very unpleaſant, and ſomewhat reſembles that of myrrh.

(2.) ALOE BARBADENSIS [*Lond.*] HEPATICA [*Ed.*]

Barbadoes, or hepatic aloes.

Hepatic aloes is not ſo clear and bright as the foregoing ſort: it is alſo of a darker colour, more compact texture, and for the moſt part drier. Its ſmell is much ſtronger and more diſagreeable: the taſte intenſely bitter and nauſeous, with little or nothing of the fine aromatic flavour of the Socotorine. The beſt hepatic aloes come from Barbadoes in large gourd ſhells; an inferior ſort of it (which is generally ſoft and clammy) is brought over in caſks.

(3.) Aloe caballina.

Fetid, caballine or horſe aloes.

This ſort is eaſily diſtinguiſhed from both the foregoing, by its ſtrong rank ſmell: although, in other reſpects, it agrees pretty much with the hepatic, and is not unfrequently ſold in its ſtead. Sometimes the caballine aloes is prepared ſo pure and bright, as not to be diſtinguiſhable by the eye even from the Socotorine: but its offenſive ſmell, of which it cannot be diveſted, readily betrays it. It has not now a place in the liſt of almoſt any modern pharmacopœia, and is employed chiefly by farriers.

All the ſorts of aloes diſſolve in pure ſpirit, proof ſpirit, and proof ſpirit diluted with half its weight of water; the impurities only being left. They diſſolve alſo by the aſſiſtance of heat in water alone; but as the liquor cools, the reſinous part ſubſides, the gummy remaining united with the water. The hepatic aloes is found to contain more reſin and leſs gum than the Socotorine, and this than the caballine. The reſins of all the ſorts, purified by ſpirit of wine, have little ſmell: that obtained from the Socotorine has ſcarce any perceptible taſte; that of the hepatic, a ſlight bitteriſh reliſh; and the reſin of the caballine, a little more of the aloetic flavour. The gummy extracts of all the ſorts are leſs diſagreeable than the crude aloes: the extract of Socotorine aloes has very little ſmell, and is in taſte not unpleaſant; that of the hepatic has a ſomewhat ſtronger ſmell, but is rather more agreeable in taſte than the extract of the Socotorine; the gum of the caballine retains a conſiderable ſhare of the peculiar rank ſmell of this ſort of aloes, but its taſte is not much more unpleaſant than that of the extracts made from the two other ſorts.

Aloes is a ſtimulating bitter cathartic; if given in ſo large a doſe as to purge effectually, it often occaſions an irritation about the anus, and ſometimes a diſcharge of blood. Small doſes of it frequently repeated, not only cleanſe the primæ viæ, but likewiſe warm the habit, quicken the circulation, and promote the uterine and hæmorrhoidal fluxes. This medicine is particularly ſerviceable in habitual coſtiveneſs, to perſons of a phlegmatic temperament and ſedentary life, and where the ſtomach is oppreſſed and weakened: in dry bilious habits aloes proves injurious, immoderately heating the body, and inflaming the bowels.

The juice is likewiſe, on account of its bitterneſs, ſuppoſed to kill worms, either taken internally, or applied in plaſters to the umbilical region. It is alſo celebrated for reſtraining external hæmorrhagies, and cleanſing and healing wounds and ulcers.

The antients gave aloes in much larger doſes than is cuſtomary at preſent. Dioſcorides orders half a drachm or a drachm for gently looſening the belly: and three drachms when intended to have the full effect of a cathartic. But modern practice rarely exceeds a ſcruple, and limits the greateſt doſes to two ſcruples. For the common purpoſes of this medicine, ten or twelve grains ſuffice: taken in theſe or leſs quantities, it acts as a general ſtimulating eccoprotic, capable of removing, if duly continued, very obſtinate obſtructions.

Aloes are much leſs frequently uſed to operate as a purgative than merely to obviate coſtiveneſs: and indeed their purgative effect is not increaſed in proportion to the quantity that is taken. Perhaps the chief objection to aloes, in caſes of habitual coſtiveneſs, is the tendency which they have to induce and augment hæmorrhoidal affections. And with thoſe, liable to ſuch complaints, they can ſeldom be employed. Their purgative effect ſeems chiefly to depend on their proving a ſtimulus to the rectum.

Some authors are of opinion, that the purgative virtue of aloes reſides entirely in its reſin: but experience has ſhewn, that the pure reſin has little or no purgative quality; and that the gummy part ſeparated from the reſinous acts more powerfully than the crude aloes. If the aloes indeed be made to undergo long coction in the preparation of the gummy extracts, its cathartic powers will be conſiderably leſſened, not from the ſeparation of the reſin, but from an alteration made in the juice itſelf by the heat. The ſtrongeſt vegetable cathartics become mild by a like treatment, without any remarkable ſeparation of their parts.

Socotorine aloes, as already obſerved, contain more gummy matter than the hepatic; and hence are likewiſe found to purge more, and with greater irritation. The firſt ſort, therefore, is moſt proper where a ſtimulus is required, as for promoting or exciting the menſtrual flux; while the latter is better calculated to act as a common purge. It is ſuppoſed that the vulnerary and balſamic virtues of this juice reſide chiefly in the reſin; and hence that the hepatic aloes, which is moſt reſinous, is moſt ſerviceable in external applications.

Aloes enter many of the officinal preparations and compoſitions, eſpecially different pills and tinctures. And according to the peculiar purpoſes for which theſe are intended, ſometimes the Barbadoes, ſometimes the Socotorine aloes, are the moſt proper.

ALTHÆA [*Lond. Ed.*] *Radix, folium.*

Althæa officinalis Lin.

Marſh mallows. The leaf and root.

Though this plant grows ſpontaneouſly in marſhes, and other moiſt places, in ſeveral parts of England, it is frequently cultivated for medicinal uſe. All the parts of it have a ſlimmy taſte, and abound with a ſoft mucilaginous ſubſtance, which is readily extracted by water; the mucilage of the roots appears to be the ſtrongeſt; and hence this part is generally uſed in preference to the others.

This plant has the general virtues of an emollient medicine; and proves ſerviceable where the natural mucus of the inteſtines is abraded. It is chiefly recommended in ſharp defluxions upon the lungs, hoarſeneſs, dyſenteries; and likewiſe in nephritic and calculous complaints; not, as has been ſuppoſed, that this medicine has any peculiar power of diſſolving or expelling the calculus; but as by lubricating and relaxing the veſſels it procures a more free and eaſy paſſage. Althæa root is ſometimes employed externally for ſoftening and maturating hard tumors: chewed, it is ſaid, to give eaſe in difficult dentitions of children.

ALUMEN [*Lond. Ed.*]

Alum.

Alum is a ſalt artificially produced from certain minerals, by calcining and expoſing them to the air; after which the alum is elixated by means of water. The largeſt quantities are prepared in England, Germany, and Italy.

This ſalt is of a white or pale red colour, of an auſtere ſtyptic taſte, accompanied with a nauſeous ſweetiſhneſs. It diſſolves in about twelve times its weight of water; and concretes again, upon duly evaporating the ſolution, into ſemitranſparent cryſtals of an octagonal figure. Expoſed to the fire, it eaſily melts, bubbles up in bliſters, emits a copious phlegm, and then turns into a light ſpongy white maſs, conſiderably more acrid than the alum was at firſt; this urged with a ſtronger fire, yields vitriolic acid; the part which remains, if the heat has been ſufficiently intenſe and long continued, is an inſipid white earth.

Solutions of alum coagulate milk, change the blue colour of vegetable juices into a red or purple, and turn an infuſion of galls turbid and whitiſh. Upon adding fixt alkaline ſalts to theſe ſolutions, the earth of the alum is precipitated with the colouring matter of the vegetable, and its acid uniting to the fixt alkali forms a neutral ſalt.

Alum is a powerful aſtringent: it is reckoned particularly ſerviceable for reſtraining hæmorrhagies, and immoderate ſecretions from the blood; but leſs proper in inteſtinal fluxes. In violent hæmorrhagies, it may be given in doſes of fifteen or twenty grains, and repeated every hour or half hour till the bleeding abates: in other caſes, ſmaller doſes are more adviſeable; large ones being apt to nauſeate the ſtomach, and occaſion violent conſtipations of the bowels. It is uſed alſo externally, in aſtringent and repellent lotions and collyria. Burnt alum taken internally has been highly extolled in caſes of colic. In ſuch inſtances, when taken to the extent of a ſcruple for a doſe, it has been ſaid gently to move the belly, and give very great relief from the ſevere pain.

AMBRAGRISEA [*Dan.*]

Ambra ambroſiaca Lin.

Ambergris.

Ambergris is a bituminous ſubſtance of a greyiſh or aſh colour, intermixed with yellowiſh and blackiſh ſpecks or veins; it is uſually met with in little opaque rugged maſſes, very light, of a looſe texture, friable in a certain degree like wax; they break rough and uneven, and not unfrequently contain pieces of ſhells, bones of fiſhes, and other like matters. This concrete is found floating on the ſurface of the ſea, or thrown on the ſhores; the greateſt quantities are met with in the Indian ocean; pieces have likewiſe been now and then diſcovered in our own and other northern ſeas. It is ſuppoſed to be an animal product, from its being ſo frequently found in the belly of the *phyſeter macrocephalus Lin.*

Pure ambergris ſoftens between

the fingers; melts in a ſmall degree of heat into the appearance of oil, and in a ſtronger heat proves almoſt totally volatile. Warmed a little, it emits a peculiar fragrant ſmell; ſet on fire, it ſmells like burning amber. It diſſolves, though difficultly, in ſpirit of wine and eſſential oils; but not in expreſſed oils or in water.

Ambergris is in general the moſt agreeable of the perfumes, and rarely accompanied with the inconveniencies which other ſubſtances of this claſs frequently occaſion. It has been conſidered as an high cordial, and eſteemed of great ſervice in all diſorders of the head, and in nervous complaints; a ſolution of it in a ſpirit diſtilled from roſes, ſtands recommended by Hoffman as one of the moſt efficacious corroborants of the nervous ſyſtem. The Orientals entertain an high opinion of the aphrodiſiac virtues of this concrete; they likewiſe ſuppoſe that the frequent uſe of it conduces to long life: But it is now very little employed in practice, and has no place either in the London or Edinburgh Pharmacopœias; yet its ſenſible qualities give reaſon for believing that it may be a more active medicine than ſome articles which are retained; although credit is by no means to be paid to all that has been ſaid with regard to it.

AMMONIA. See, Sal Ammoniacus, Sal Cornu Cervi.

AMMONIACUM, GUMMI RESINA [*Lond. Ed.*]

Ammoniacum, the gum reſin.

Ammoniacum is a concrete gummy reſinous juice, brought from the Eaſt Indies, uſually in large maſſes, compoſed of little lumps or tears of a milky colour, but ſoon changing, by being expoſed to the air, of a yellowiſh hue. We have no certain account of the plant which affords this juice: the ſeeds uſually found among the tears reſemble thoſe of the umbelliferous claſs. It has however, been alleged, and not without ſome degree of probability, that it is an exudation from a ſpecies of the ferula, another ſpecies of which produces the aſafœtida. The plant producing it is ſaid to grow in Nubia, Abyſſinia, and the interior parts of Egypt. Such tears as are large, dry, free from little ſtones, ſeeds, or other impurities, ſhould be picked out and preſerved for internal uſe, the coarſer kind is purified by ſolution, colature, and inſpiſſation; unleſs this be artfully managed, the gum will loſe a conſiderable portion of its more volatile parts. There is often vended in the ſhops, under the name of ſtrained gum ammoniacum, a compoſition of ingredients much inferior in virtue.

Ammoniacum has a nauſeous ſweet taſte, followed by a bitter one; and a peculiar ſmell, ſomewhat like that of galbanum, but more grateful: it ſoftens in the mouth, and grows of a white colour by being chewed. Thrown on live coals, it burns away in flame: it is in ſome degree ſoluble in water and in vinegar, with which it aſſumes the appearance of milk; but the reſinous parts amounting to about one-half, ſubſide on ſtanding.

Ammoniacum is an uſeful deobſtruent; and it is frequently preſcribed for opening obſtructions of the abdominal viſcera, and in hyſterical diſorders occaſioned by a deficiency of the menſtrual evacuations. It is likewiſe ſuppoſed to act on the pulmonary veſſels; and to prove of conſiderable ſervice in ſome kinds of aſthmas, where the lungs are oppreſſed by viſcid phlegm: with this intention, a ſolution of gum ammoniacum in vinegar of ſquills, though not a little unpleaſant, proves a medicine of great efficacy. In long and obſtinate colics this gummy reſin has produced happy effects, after purges and the common carminatives had been uſed in vain. Ammoniacum is moſt commodiouſly taken in the form of pills: about a ſcruple may be given every night, or oftener. Externally, it is ſuppoſed to ſoften and ripen hard tumours: a ſolution of it in vinegar ſtands recommended for reſolving even ſchirrous ſwellings. A plaſter made of it and ſquill-vinegar, is recommended in white ſwellings. A dilute mixture of it is likewiſe rubbed on the parts, which are alſo fumigated with ſmoke of juniper berries.

AMYGDALA AMARA, DULCIS [*Lond. Ed.*] *Nucleus.*

Amygdalis communis Lin.

Bitter and ſweet almond. The kernel.

The almond is a flattiſh kernel, of a white colour, covered with a thin browniſh ſkin; of a ſoft ſweet taſte, or a diſagreeable bitter one. The ſkins of both ſorts are unpleaſant, and covered with an acrid powdery ſubſtance; they are very apt to become rancid on keeping, and to be preyed on by a kind of inſect, which eats out the internal part, leaving the almond to appearance entire. To theſe circumſtances regard ought to be had in the choice of them.

They are the produce of a ſpecies of peach tree; and the eye diſtinguiſhes no difference between the trees which produce the ſweet and bitter, or between the kernels themſelves; it is ſaid that the ſame tree has, by a difference in culture, afforded both.

Both ſorts of almonds yield, on expreſſion, a large quantity of oil, which has no ſmell or any particular taſte; this oil ſeparates likewiſe on boiling the almonds in water, and is gradually collected on the ſurface: but on triturating the almonds with water, the oil and water unite together, by the mediation of the other matter of the kernel, and form an unctuous milky liquor.

Sweet almonds are of greater uſe in food than as medicines, but they are reckoned to afford little nouriſhment; and when eaten in ſubſtance, are not eaſy of digeſtion, unleſs thoroughly comminuted. They are ſuppoſed, on account of their ſoft unctuous quality, to obtund acrimonious juices in the primæ viæ: peeled ſweet almonds, eaten ſix or eight at a time, ſometimes give ſpeedy relief in the heartburn.

Bitter almonds have been found poiſonous to dogs and ſundry other animals; and a water diſtilled from them, when made of a certain degree of ſtrength, has the ſame effects. Nevertheleſs, when eaten, they appear innocent to men, and have been frequently uſed as medicines. Boerhaave recommends them in ſubſtance, as diuretics which heat but moderately, and which may, therefore be ventured on in acute diſeaſes.

The oils obtained by expreſſion from both ſorts of almonds are in their ſenſible qualities the ſame. The general virtues of theſe oils are, to blunt acrimonious humours, and to ſoften and relax the ſolids: hence their uſe internally, in tickling coughs, heat of urine, pains and inflammations; and externally, in tenſion and rigidity of particular parts.

The milky ſolutions of almonds in watery liquors, commonly called emulſions, contain the oil of the ſubject, and participate in ſome degree of its emollient virtue; but have this advantage above the pure oil, that they may be given in acute or inflammatory diſorders, without danger of the ill effects which the oil might ſometimes produce; ſince emulſions do not turn rancid or acrimonious by heat as all the oils of this kind in a little time do. Several unctuous and reſinous ſubſtances, of themſelves not miſcible with water, may by trituration with almonds be eaſily mixed with it into the form of an emulſion; and are thus excellently fitted for medicinal uſe. In this form camphor and the reſinous purgatives may be commodiouſly taken. The only officinal preparations of almonds are, the expreſſed oil and emulſion. The oil is chiefly expreſſed from the bitter almond as being cheaper, but the emulſion is made with the ſweet almond. An emulſion formed entirely of bitter almonds, taken to the quantity of a pint or two daily, is ſaid to have been given in obſtinate intermittents with ſucceſs.

AMYLUM [*Edin.*] *Ex tritico præparatum.*

Starch a preparation from wheat. See TRITICUM.

ANCHUSA [*Ed.*] *Radix.*

Anchuſa tinctoria Lin.

Alkanet root.

Alkanet is a rough hairy plant, much reſembling the viper's bugloſs: its chief difference from the common bugloſſes conſiſts in the colour of its roots: the cortical part of which is of a duſky red, and imparts an elegant deep red to oils, wax, and all unctuous ſubſtances, but not to watery liquors. This plant is a native of Europe: it is ſometimes cultivated in our gardens; but the greateſt quantities are raiſed in Germany or France, particularly about Montpelier, from whence the dried roots are uſually imported to us. The alkanet root produced in England is much inferior in colour to that brought from abroad; the Engliſh being only lightly reddiſh, the others of a deep purpliſh red: and it has been ſuſpected, but without ſufficient foundation, that the foreign roots owe part of their colour to art.

Alkanet root has little or no ſmell; when recent, it has a bitteriſh aſtringent taſte; but when dried, ſcarcely any. As to its virtues, the preſent practice expects not any from it. Its chief uſe is for colouring oils, ointments, and plaſters. As the colour is confined to the cortical part, the ſmall roots are beſt, having proportionally more bark than the large.

ANETHUM [*Lond. Ed.*] *Semen.*

Anethum graveolens Lin.

Dill, the ſeed.

Dill is an umbelliferous plant, cultivated in gardens, as well for culinary as medical uſe. The ſeeds are of a pale yellowiſh colour, in ſhape nearly oval, convex on one ſide and flat on the other. Their taſte is moderately warm and pungent; their ſmell aromatic, but not of the moſt agreeable kind. Theſe ſeeds are recommended as a carminative in flatulent cholics. The moſt efficacious preparations of them are, the diſtilled oil, and a tincture or extract made with rectified ſpirit. A ſimple diſtilled water prepared from theſe ſeeds has a place both in the London and Edinburgh Pharmacopœias.

ANGELICA [*Lond. Ed.*] *Radix, caulis, folium, ſemen.*

Angelica Archangelica Lin.

Angelica the root, ſtalk, leaf, and ſeed.

It is a large umbelliferous plant, growing ſpontaneouſly in the northern climates: for the uſe of the ſhops, it is cultivated in gardens in different parts of Europe. Angelica roots are apt to grow mouldy, and to be preyed on by inſects, unleſs thoroughly dried, kept in a dry place, and frequently aired. We apprehend, that the roots which are ſubject to this inconvenience might be preſerved, by dipping them in boiling ſpirit, or expoſing them to its ſteam, after they are dried.

All the parts of angelica, eſpecially the roots, have a fragrant aromatic ſmell; and a pleaſant bitteriſh warm taſte, glowing upon the lips and palate for a long time after they have been chewed. The flavour of the ſeeds and leaves is very periſhable; particularly that of the latter, which, on being barely dried, loſe the greateſt part of their taſte and ſmell: the roots are more tenacious of their flavour, though they loſe part of it with keeping. The freſh root, wounded early in the ſpring, yields an odorous, yellow juice; which, ſlowly exſiccated, proves an elegant gummy reſin, very rich in the virtues of the angelica. On drying the root, this juice concretes into diſtinct moleculæ, which, on cutting it longitudinally, appear diſtributed in little veins; in this ſtate, they are extracted by pure ſpirit, but not by watery liquors.

Angelica is one of the moſt elegant aromatics of European growth, though little regarded in the preſent practice. The root, which is the moſt efficacious part, is uſed in the aromatic tincture. The ſtalks make an agreeable ſweetmeat.

Beſides the angelica archangelica, or garden-angelica, as it is commonly called, the Edinburgh College ſtill alſo give a place to the root of the angelica ſylveſtris, or wild angelica. But it ſeems to differ only from the former in being much weaker, and might with propriety be rejected.

ANGUSTURA [*Edin.*] *Cortex.*

Anguſtura bark.

The natural hiſtory of this bark is hitherto unknown. The firſt parcel of it that was imported came from Dominica in July 1788, with an account "that it had been "found ſuperior to the Peruvian "bark in the cure of fevers." Subſequent importations from the Spaniſh Weſt Indies, either immediately or through the medium of Spain, give reaſon to ſuppoſe that it is the produce of South America. Angoſtura is the Spaniſh term for a narrow paſs between two mountains. This alſo corroborates the ſuppoſition.

Its appearance is various, owing to its having been taken from larger or ſmaller branches. The outer ſurface of it is more or leſs wrinkled, and covered with a greyiſh coat, below which it is of a yellowiſh brown: the inner ſurface is of a dull brown. It breaks ſhort and reſinous. The taſte is intenſely bitter and ſlightly aromatic, leaving a ſtrong ſenſe of heat and pungency in the throat and fauces. The odour is ſingular.

Water either cold or warm, extracts the bitter quality; and ſpirit, the aromatic and acrid part of this bark; and the bark when triturated with quicklime or with fixed alkali gives out an odour of volatile alkali; an infuſion of the bark is not changed by vitriolated iron.

As being an aromatic bitter it has been found to be a ſtrengthener and ſtimulant of the organs of digeſtion. It increaſes the appetite for food; removes flatulencies and acidity in conſequence of dyſpepſia. It is found to have no aſtringent power, but by its ſtrengthening quality it is very effectual in diarrhœa from weakneſs of the bowels and in dyſenteries. It is found ineffectual in the cure of intermittents. Future obſervations and farther trials of this new Bark, may, we hope, lead to a more perfect knowledge of its medicinal powers.

ANISUM [*Lond. Ed.*] *Semen. Pimpinella Aniſum Lin.*

Aniſe, the ſeed.

Aniſe is an annual umbelliferous plant, growing naturally in Crete, Syria, and other places of the eaſt. It is cultivated in ſome parts of France, Germany, and Spain, and may be raiſed alſo in England; the ſeeds brought from Spain, which are ſmaller than the other, are preferred.

Aniſeeds have an aromatic ſmell, and a pleaſant warm taſte, accompanied with a degree of ſweetneſs. Water extracts very little of their flavour; rectified ſpirit the whole.

The principal uſe of theſe ſeeds is in flatulent diſorders, and in the gripes to which young children are ſubject. Frederick Hoffman ſtrongly recommends them in weakneſs of the ſtomach, diarrhœas, and for ſtrengthening the tone of the viſcera in general; and thinks they well deſerve the appellation given them by Helmont, *inteſtinorum ſolamen.*

There were formerly ſeveral officinal preparations of theſe ſeeds, but the only one now retained is an eſſential oil.

ANTIMONIUM [*Lond. Ed.*] *Stibium, ſive Antimonium ſulphuratum.*

Antimony.

Antimony is a ponderous brittle mineral compoſed of long ſhining ſtreaks like needles, mixed with a dark lead-coloured ſubſtance; of no manifeſt taſte or ſmell. There are ſeveral mines of it in Germany, Hungary, and France: and ſome likewiſe in England. The Engliſh ſeems to be of all theſe the leaſt proper for medicinal uſe, as frequently containing a portion of lead. The ſubſtances found mixed with the foreign ſorts are generally of the infuſible ſtony kind, from which the antimony is melted out in veſſels whoſe bottom is perforated with ſmall holes, and received in conical moulds; in theſe, the lighter and more droſſy matter ariſes to the ſurface; while the more pure and ponderous ſubſides to the bottom; hence the upper broad part of the loaves is conſiderably leſs pure than the lower.

The goodneſs of antimony is judged of from its weight; from the loaves not being ſpongy or blebby; from the largeneſs of the ſtriæ; and from the antimony totally evaporating in a ſtrong fire.

Antimony was employed by the antients, in collyria, againſt inflammations of the eyes; and for ſtaining the eye brows black. Its internal uſe does not ſeem to have been eſtabliſhed till towards the end of the fifeeenth century; and even then many practitioners thought it poiſonous. But experience has now fully evinced, that antimony, in its crude ſtate, has no noxious quality, being often uſed, particularly in chronic eruptions; that ſome of the preparations of it are medicines of great efficacy; and that though many of them are moſt violently emetic and cathartic, yet even theſe, by a ſlight alteration or addition, loſe their virulence, and become mild in their operation.

This mineral conſiſts of a metal, united with common ſulphur, and ſeparable in its metallic form, by the ſame means by which other metallic bodies are extracted from their ores.

The pure metal operates, in a very minute doſe, with extreme vehemence, as a purgative and emetic: when combined with ſulphur, as in the crude mineral, its power is reſtrained.

Antimony is at preſent the baſis of many officinal preparations, to be afterwards mentioned. But beſides thoſe ſtill retained, many others have been formerly in uſe, and are ſtill employed by different practitioners. We ſhall here therefore ſubjoin a table drawn up by Dr Black, exhibiting a diſtinct view of the whole.

Dr Black's Table of the Preparations of Antimony.

Medicines are prepared either from crude Antimony, or from the pure metallic part of it called regulus.

From Crude Antimony.

I. By trituration.
Antimonium præparatum. Ed. et Lond.

II. By the action of heat and air.
Flores Antimonii ſine addito.
Vitrum Antimonii. Ed.
Antimonium vitrificatum. Lond.
Vitrum Antimonii ceratum. Ed.
Antimonium Calcareo-phoſphoratum, ſive Pulvis Antimonialis. Ed.
Pulvis Antimonialis. Lond.

III. By the action of alkalies.
Hepar Antimonii mitiſſimum.
Regulus Antimonii medicinalis.
Hepar ad Kermes minerale *Geoffroi.*
Hepar ad Tinct. Antimonii.
Kermes minerale.
Sulphur Antimonii præcipitatum. Ed. et Lond.

IV. By the action of nitre.
Crocus Antimonii mitiſſimus.
Vulgo Regulus Antimonii medicinalis.
Crocus Antimonii. Ed. et Lond.
Antimonii emeticum mitius. *Boerh.*
Antimonium uſtum cum Nitro, *vulgo*, Calx Antimonii nitrata. Ed
Antimonium calcinatum. Lond. *vulgo, diaphoret.*

V. By the action of acids.
Antim. vitriolat. *Klaunig.*
Antim. cathartic. *Wilſon.*
Antimonium muriatum, vulgo Butyrum Antim. Ed.
Antimonium muriatum. Lond.
Pulvis Algarothi, ſive *Mercurius Vitæ.*
Bezoardicum minerale.
Antimonium tartariſatum, *vulgo*, Tartarus emeticus. Ed.
Antimonium tartariſatum. Lond.
Vinum Antimonii tartariſati. Ed. et Lond.
Vinum Antimonii. Lond.

From the Regulus.

This metal ſeparated from the ſulphur by different proceſſes, is called *Regulus antimonii ſimplex*, *Regulus martialis*, *Regulus jovialis*, &c. From it were prepared,

I. By the action of heat and air,
Flores argentei, ſive nix antim.

II. By the action of nitre,
Ceruſſa Antimonii.
Stomachicum Poterii.
Antihecticum Poterii.
Cardiacum Poterii.

Preparations which have their name from antimony, but ſcarcely contain any of it.
Cinnabaris antimonii.
Tinctura antimonii.

In the various preparations of antimony, the reguline part is either combined with an acid, or in a condition to be acted upon by acids in the ſtomach; and the general effects of antimonials are, diaphoreſis, nauſea, full vomiting and purging, which perhaps may be beſt obtained by the forms of prepared antimony and emetic tartar. Some allege that antimonials are of moſt uſe in fevers when they do not produce any ſenſible evacuation, as is ſaid to be the caſe ſometimes with James's powder. Some therefore prefer it in typhus, and emetic tartar in ſynochus, in which there is the appearance at firſt of more activity in the ſyſtem, and more apparent cauſe for evacuation.

APIUM [*Gen.*] *Rad. Fol. ſemen.*
Apium graveolens Lin.
Smallage; the root, leaves, and ſeeds.

This plant is larger than the garden parſley, of a darker green colour, and of a ſtronger and more unpleaſant flavour. The roots have been ſometimes preſcribed as an ingredient in aperient apozems and diet drinks: but are at preſent diſregarded. The ſeeds of the plant are moderately aromatic, and were formerly uſed as carminatives; with which intention they are, doubtleſs, capable of doing ſervice, though the other warm ſeeds with which the ſhops are furniſhed render theſe unneceſſary.

ARABICUM GUMMI, [*Lond. Ed.*]
Mimoſa nilotica Lin.
Gum arabic.

Gum arabic is a concrete gum, exuding from a tree growing in great abundance in Egypt and Arabia, which has accordingly given name to this gum. It is brought to us from Turkey, in ſmall irregular maſſes or ſtrings, of a pale yellowiſh colour. The true gum Arabic is rarely to be met with in the ſhops; gum ſenega or ſenica, which comes from the coaſt of Guinea, being uſually ſold for it. This greatly reſembles the other, and perhaps, as Dale conjectures, exudes from a tree of the ſame kind: it is generally in large pieces, rough on the outſide; and in theſe circumſtances poſſibly conſiſts the only difference between the two; although the former is held to be the purer gum, and therefore preferred for medicine; and the latter the ſtrongeſt, moſt ſubſtantial, and cheapeſt, and conſequently more employed for mechanic uſes. The virtues of this gum are the ſame with thoſe of gummy and mucilaginous ſubſtances in general: it is given from a ſcruple to two drachms in hoarſeneſſes, a thin acrimonious ſtate of the fluids, and where the natural mucus of the inteſtines is abraded. It is an ingredient in the white decoction, chalk julep, the common emulſion, and ſome of the troches.

ARGENTUM [*Lond.*]
Silver.

Silver is entitled to a place in the materia medica, only as being the baſis of different preparations: and of theſe, although ſeveral were formerly in uſe, yet only one now retains a place either in the London or Edinburgh pharmacopœias.

Abundance of virtues have been attributed to crude ſilver by the Arabians, and by ſome alſo of later times, but on very little foundation. This metal, taken in its crude ſtate, has no effect on the body: combined with a ſmall quantity of the nitrous acid, it proves a powerful, though not always a ſafe, hydragogue; with a larger, a ſtrong cauſtic. The nitrous acid is the only one that perfectly diſſolves this metal: on adding to this ſolution a minute portion of marine acid, or ſubſtances containing it, the liquor turns milky, and the ſilver falls to the bottom in form of a white calx: hence we are furniſhed with a method of diſcovering muriatic acid in waters.

ARISTOLOCHIA. [*Ed.*]

Birthwort: the root.

Three roots of this name were formerly directed for medicinal uſe, and have ſtill a place in ſome pharmacopœias.

(1.) Aristolochia Longa *Lin.*

Long Birthwort.

This is a tuberous root, ſometimes about the ſize of the finger, ſometimes as thick as a man's arm, and a foot in length: it is nearly of an equal thickneſs all over, or a little thicker in the middle than at the ends: the outſide is of a browniſh colour: the inſide yellowiſh.

(2.) Aristolochia rotunda *Lin.*

Round Birthwort.

This has ſcarce any other viſible difference from the foregoing than its roundiſh ſhape.

(3.) Aristolochia Tenuis. *Ariſtolochia Clematis Lin.*

Slender birthwort.

This is a long and ſlender root, rarely exceeding the thickneſs of a gooſe-quill.

Theſe roots are the produce of Spain, Italy, and the ſouthern parts of France. Their ſmell is ſomewhat aromatic; their taſte warm and bitteriſh. Authors in general repreſent them as extremely hot and pungent; ſome ſay they are the hotteſt of all the aromatic plants; but as uſually met with in the ſhops, they have no great pungency. The long and round ſorts, on being firſt chewed, ſcarcely diſcover any taſte, but in a little time prove nauſeouſly bitteriſh; the long ſomewhat the leaſt ſo. The other ſort inſtantly fills the mouth with an aromatic bitterneſs, which is not ungrateful. Their medical virtues are, to heat, ſtimulate, and promote the fluid ſecretions in general; but they are principally celebrated in ſuppreſſions of female evacuations. The doſe in ſubſtance is from a ſcruple to two drachms. The long ſort is recommended externally for cleanſing and drying wounds and ulcers, and in cutaneous diſeaſes. None of them, however, are now in ſo much eſteem as formerly: and while all of them are baniſhed from the pharmacopœia of the London college, the *ariſtolochia tenuis* is the only one retained in that of Edinburgh.

ARNICA [*Lond. Ed.*] *Herba. flos, radix.*

Arnica montana Lin.

German leopard's bane; the herb, flowers, and roots.

This article had formerly a place in our pharmacopœias, under the title of *Doronicum Germanicum*. Then, however, it was little known or uſed; and being juſtly conſidered as one of the deleterious vegetables, it was rejected: but it has been again introduced into the liſt both of the London and Edinburgh colleges, on the authority of freſh obſervations, particularly of thoſe

of

of Dr Collins of Vienna, who has lately publiſhed a Diſſertation on the Medical Virtues of the Arnica.

This plant grows in different parts of Europe, particularly in Germany. It has an acrid bitter taſte, and when bruiſed, emits a pungent odour, which excites ſneezing. On this account, the country people in ſome parts of Germany uſe it in ſnuff, and ſmoke it like tobacco. It was formerly repreſented as a remedy of great efficacy againſt effuſions and ſuffuſions of blood, from falls, bruiſes, or the like; and it was then alſo mentioned as a remedy in jaundice, gout, nephrites, &c. but in theſe affections it is now very little, if at all, employed.

Of late it has been principally recommended in paralytic affections, and in caſes where a loſs or diminution of ſenſe ariſes from an affection of the nerves, as in inſtances of amauroſis. In theſe, it has chiefly been employed under the form of infuſion. From a drachm to half an ounce of the flowers has been directed to be infuſed in a pint of boiling water, and taken in different doſes in the courſe of the day: ſometimes it produces vomiting, ſometimes ſweating, and ſometimes diureſis; but its uſe is frequently attended with no ſenſible operation, except that in ſome caſes of paralyſis, the cure is ſaid to be preceded by a peculiar prickling and by ſhooting pains in the affected parts.

Beſides being employed in paralytic affections, it has alſo been of late recommended as a very powerful antiſpaſmodic; and been ſucceſsfully employed in fevers, particularly thoſe of the intermittent kind, and likewiſe in caſes of gangrene. In theſe diſeaſes it has proved as efficacious as the Peruvian bark, when employed under the form of a pretty ſtrong decoction, taken in ſmall doſes frequently repeated, or under the form of an electuary with honey.

Theſe alleged virtues of the arnica have not been confirmed, as far as we know, by any trials made in Britain; and we are of opinion, that its virtues ſtill remain to be determined by future obſervations. It is, however, one of thoſe active ſubſtances which may be expected to be uſeful.

ARSENICUM [*Ed.*]

Arſenic.

Arſenic is contained, in greater or leſs quantity, in moſt kinds of ores, particularly in thoſe of tin and biſmuth, in the white pyrites, and in *cobalt*. Greateſt part of the arſenic brought to us is extracted from this laſt named mineral by a kind of ſublimation; the arſenic ariſes at firſt in the form of greyiſh meal; which, more carefully reſublimed, concretes into tranſparent maſſes, the *white* arſenic of the ſhops.

Arſenic ſublimed with one tenth its weight of ſulphur, unites therewith into a bright yellow maſs, in ſome degree tranſparent; the common *yellow* arſenic. On doubling the quantity of ſulphur, the compound proves more opaque and compact, is of a deep red colour, like cinnabar; but with this difference, that it loſes its beauty on being reduced into powder, while cinnabar is improved by this means; this is the common *red* arſenic. By varying the proportions of arſenic and ſulphur, ſublimates may be obtained of a great variety of ſhades of yellow and red.

Natural mixtures of arſenic and

ſulphur, reſembling the foregoing preparations, are not unfrequently met with in the earth. The foſſil red arſenic is the *ſandaracha* of the Greeks, the *realgar* and *reſigal* of the Arabians. Both the red and yellow, when of a ſmooth uniform texture, are named *zarnichs;* and when compoſed of ſmall ſcales or leaves, *auripigmenta* or *orpiments:* the laſt are the only ſubſtances to which the Greeks gave the name *αρσενικον*. That the zarnichs and orpiments really contain arſenic (contrary to the opinion of ſome late writers) is evident from experiments, by which a perfect arſenic, and in conſiderable quantity, is obtainable from them.

The pure or white arſenic has a penetrating corroſive taſte; and taken into the body to the extent even of only a few grains, proves a moſt violent poiſon. Beſides the effects which it has in common with other corroſives, it remarkably inflames the coats of the ſtomach, occaſions a ſwelling and ſphacelation of the whole body, and a ſudden putrefaction after death, particularly, as is ſaid, in the genitals of men. Where the quantity is ſo very ſmall as not to prove fatal, tremors, palſies, and lingering hectics ſucceed. The remedies recommended for counteracting the effects of this poiſon are, milk and oily liquors immediately and liberally drank.

Some authors recommend acids, particularly vinegar, as antidotes againſt this poiſon. Others recommend a watery ſolution of calcareous or alkaline hepar ſulphuris, which is found to combine with arſenic, and deſtroys moſt of its properties. A little iron in the ſolution is ſaid to improve it. The dry hepar may alſo be made into pills, and warm water drank after taking them.

Notwithſtanding, however, the very violent effects of arſenic, it has been employed in the cure of diſeaſes, both externally and internally. Externally, white arſenic has been chiefly employed in caſes of cancer; and its good effects were ſuppoſed to depend on its acting as a peculiar corroſive. It is imagined that arſenic is the baſis of a remedy long celebrated in cancer, that is kept a ſecret by the Plunket family in Ireland. According to the beſt conjectures, their application conſiſts of the powder of ſome vegetables, particularly the ranunculus flammeus and cotula fœtida, with a conſiderable proportion of arſenic and flower of ſulphur intimately mixed together. This powder, made into a paſte with the white of an egg, is applied to the cancerous part which is intended to be corroded, and being covered with a piece of thin bladder, ſmeared alſo with the white of an egg; the paſte is ſuffered to lie on from twenty-four to forty-eight hours; and afterwards the eſchar is to be treated with ſoftening digeſtives, as in other caſes. This application, whether it be preciſely the ſame with Plunket's remedy or not, and likewiſe arſenic in mere ſimple form, have in ſome inſtances been productive of good effects. It is indeed a powerful eſcharotic, occaſioning acute pain; but it has the peculiar excellence of not extending its operation laterally. If in ſome caſes it has been beneficial, we muſt however allow that in others it does harm. While it has occaſioned very conſiderable pain it has given the parts no diſpoſition to heal, the progreſs of the ulceration being even more rapid than before.

White arſenic has alſo been recommended as a remedy for cancer when taken internally. With this intention, five grains of arſenic, of a clear white ſhining appearance, and in ſmall cryſtals, are directed to be diſſolved in forty eight Troy ounces or four pound of diſtilled water; and of this ſolution the patient is to take a table ſpoonful, with an equal quantity of milk and a little ſyrup of white poppies, every morning faſting, taking nothing for an hour after it. After this has been continued for about eight days, the quantity is to be increaſed, and the doſes more frequently repeated, till the ſolution be taken by an adult to the extent of ſix table ſpoonfuls in the courſe of a day. Mr Le Febure, who is we believe, the introducer of this practice, affirms that he has uſed it in more than two hundred inſtances without any bad effect, and with evident proofs of its efficacy. But when employed by others, it has by no means been found equally efficacious.

Arſenic, in ſubſtance, to the extent of an eighth of a grain for a doſe, combined with a little of the flowers of ſulphur, has been ſaid to be employed internally in ſome very obſtinate caſes of cutaneous diſeaſes, and with the beſt effects: but of this we have no experience.

Of all the diſeaſes in which white arſenic has been uſed internally, there is no one in which it has been ſo frequently and ſo ſucceſsfully employed as in the cure of intermittent fevers. It has been long uſed in Lincolnſhire, and other fenny countries, under the name of the *arſenic drop*, prepared in different ways: And it is probable that an article, which has had a very extenſive ſale, under the title of the *taſteleſs-ague drop*, is nothing elſe but a ſolution of arſenic. Whether this be the caſe or not, we have now the moſt ſatisfactory information, in a late volume of the Medical Reports, of the effects of Arſenic in the cure of Agues, Remitting Fevers, and Periodic Headachs, by Dr Fowler of Stafford. He directs, ſixty-four grains of arſenic, reduced to a very fine powder, and mixed with as much fixed vegetable alkaline ſalt, to be added to half a pound of diſtilled water, in a florence flaſk; that it ſhould then be placed in a ſand heat, and gently boiled till the arſenic be completely diſſolved; when the ſolution is cold, half an ounce of compound ſpirit of lavender is to be added to it, and as much diſtilled water as to make the whole ſolution amount to a pound. This ſolution is taken in doſes, regulated according to the age, ſtrength, and other circumſtances of the patient, from two to twelve drops, once, twice, or oftener in the courſe of the day. And in the diſeaſes above mentioned, particularly in intermittents, it has been found to be a ſafe and very efficacious remedy, both by Dr Fowler and other practitioners: but in ſome inſtances even when given in very ſmall doſes, we have found it excite violent vomiting. But beſides this, it has alſo been alleged that perſons cured of intermittents by arſenic, are very liable to become pthiſical.

If arſenic be ever extenſively employed internally, it will probably be moſt certain and moſt ſafe in its operation when brought to the ſtate of a ſalt readily ſoluble in water. Mr Morveau tells us, that it may be brought to the ſtate of a true neutral ſalt by the following proceſs. Mix well together equal quantities of nitre and of pure white arſenic; put them into a retort, and diſtil at firſt with a gentle heat, but afterwards with ſo ſtrong a heat as to redden the bottom of the retort. By this means the alkaline baſis of the nitre will unite with the acid of the arſenic, and will be found in the bottom of the retort in the form of a neutral ſalt, from which cryſtals of a priſmatic figure, may be obtained by ſolution, and ſubſequent cryſtalliſation. This ſal arſenici has been employed with great ſucceſs by ſeveral practitioners.

The red and yellow arſenics, both native and factitious, have little taſte, and are much leſs virulent in their effects than the foregoing. Sulphur, which reſtrains the power of mercury and antimony, remarkably abates the virulence of this poiſonous mineral alſo. Such of theſe ſubſtances as participate more largely of ſulphur, ſeem to be almoſt innocent: the factitious red arſenic and the native orpiments, have been given to dogs in conſiderable quantity, without their being productive of any apparent bad conſequences.

ARTEMISIA [*Ed*] *Folia.*

Artemiſia vulgaris Lin.

Mugwort; the leaves.

This plant grows plentifully in fields, hedges, and waſte places, throughout England: and flowers in June. In appearance it ſomewhat reſembles the common wormwood: the difference moſt obvious to the eye is in the flowers, thoſe of wormwood hanging downwards, while the flowers of mugwort ſtand erect.

The leaves of this plant have a light aromatic ſmell, and an herbaceous bitteriſh taſte. They were formerly celebrated as uterine and antihyſteric: an infuſion of them is ſometimes drank, either alone or in conjunction with other ſubſtances, in ſuppreſſion of the menſtrual evacuations. This medicine is certainly a very mild one, and conſiderably leſs hot than moſt others to which theſe virtues are attributed: in ſome parts of this kingdom, mugwort is now, however, very little employed in medicine; and it is probably with propriety that the London College have rejected it from their pharmacopœia.

ARTHANITA, *Radix.*

Cyclamen europæum Lin.

Sowbread; the root.

This plant is met with in the gardens of the curious. The root has, when freſh, an extremely acrimonious burning taſte, which it almoſt entirely loſes on being dried. It is recommended as an errhine; in cataplaſms for ſchirrous and ſcrophulous tumours; and internally as a cathartic, detergent, and aperient: it operates very ſlowly, but with great virulence, inflaming the fauces and inteſtines.

ARUM [*Lond. Ed.*] *Radix.*

Arum maculatum Lin.

Wake robin; the root.

This plant grows wild under hedges, and by the ſides of banks, in moſt parts of England. It ſends forth in March three or four triangular leaves, which are followed by a naked ſtalk bearing a purpliſh piſtil incloſed in a long ſheath: this is ſucceeded in July by a bunch of reddiſh berries. In ſome plants, the leaves are ſpotted with black, in others with white ſpots, and in others not ſpotted at all: the black ſpotted ſort is ſuppoſed to be the moſt efficacious.

All the parts of arum, particularly the root, have an extremely pungent, acrimonious taſte; if the root be but ſlightly chewed, it continues to burn and vellicate the tongue for ſome hours, occaſioning at the ſame time a conſiderable thirſt: theſe ſymptoms are alleviated by butter-milk or oily liquors. Dried and kept for ſome time, it loſes much of its acrimony, and becomes at length an almoſt inſipid farinaceous ſubſtance.

The root is a powerful ſtimulant. It is reckoned a medicine of great efficacy in ſome cachetic and chlorotic caſes, in weakneſs of the ſtomach occaſioned by a load of viſcid phlegm. Great benefit has been obtained from it in rheumatic pains, particularly thoſe of the fixt kind, and which were deep ſeated In theſe caſes from ten grains to a ſcruple of the freſh root may be given twice or thrice a-day, made into a bolus or emulſion with unctuous and mucilaginous ſubſtances, which cover its pungency, and prevent its making any painful impreſſion on the tongue. It generally excites a ſlight tingling ſenſation through the whole habit, and when the patient is kept warm in bed, produces a copious ſweat.

The arum was formerly an ingredient in an officinal preparation, called the compound powder of arum; but in that form its virtues are very precarious. Some recommend a tincture of it drawn with wine; but neither wine, water, nor ſpirits extract its virtues.

ASAFŒTIDA [*Lond. Ed.*]
Gummi reſina.
Ferula Aſafœtida Lin.

Aſafœtida; the gum-reſin.

This is the concrete juice of a large umbelliferous plant, a native of Perſia. Till very lately it was not to be met with in our hot-houſes; but, by the induſtry of the late Dr Hope, it is now growing in the botanical gardens at Edinburgh, and in ſome other places: and it is found, that it not only bears the viciſſitudes of our climate, even in the open air, but that the plant is here ſtrongly impregnated with its peculiar juice.

This juice exudes liquid, and white like milk, from wounds made in the root of the plant: on being expoſed to the air, it turns of a browniſh colour, and gradually acquires different degrees of conſiſtency. It is brought to us in large irregular maſſes, compoſed of various little ſhining lumps or grains, which are partly of a whitiſh colour, partly reddiſh, and partly of a violet hue. Thoſe maſſes are accounted the beſt which are clear, of a pale reddiſh colour, and variegated with a great number of elegant white tears.

This drug has a ſtrong fetid ſmell, ſomewhat like that of garlic; and a bitter, acrid, biting taſte. It loſes ſome of its ſmell and ſtrength by keeping, a circumſtance to be particularly regarded in its exhibition. It conſiſts of about one third part of pure reſin and two third parts of gummy matter; the former ſoluble in rectified ſpirit, the other in water. Proof-ſpirit diſſolves almoſt the whole into a turbid liquor; the tincture in rectified ſpirit is tranſparent.

Aſafœtida is the ſtrongeſt of the fetid gums, and of frequent uſe in hyſteric and different kinds of nervous complaints. It is likewiſe of conſiderable efficacy in flatulent colics,

colics; and for promoting all the fluid ſecretions in either ſex. The antients attributed to this medicine many other virtues, which are at preſent not expected from it.

This gummy reſin is an ingredient in the officinal gum pills, fetid tincture, and fetid volatile ſpirit.

ASARUM [*Lond. Ed.*] *Folium.*

Aſarum europæum Lin.

Aſarabacca; the leaves.

Aſarum is a very low plant, growing naturally in France, Italy, and other warm countries. It grows readily in our gardens; and although the dried roots have been generally brought from the Levant, thoſe of our own growth do not ſeem to be weaker.

Both the roots and leaves have a nauſeous, bitter, acrimonious, hot taſte; their ſmell is ſtrong, and not very diſagreeable. Given in ſubſtance from half a drachm to a drachm, they evacuate powerfully both upwards and downwards. It is ſaid, that tinctures made in ſpirituous menſtrua, poſſeſs both the emetic and cathartic virtues of the plant; that the extract obtained by inſpiſſating theſe tinctures, acts only by vomiting, and with great mildneſs: that an infuſion in water proves cathartic, rarely emetic: that aqueous decoctions made by long boiling, and the watery extract, have no purgative or emetic quality, but prove good diaphoretics, diuretics, and emmenagogues.

The principal uſe of this plant among us is as a ſternutatory. The root of aſarum is perhaps the ſtrongeſt of all the vegetable errhines, white hellebore itſelf not excepted. Snuffed up the noſe, in the quantity of a grain or two, it occaſions a large evacuation of mucus, and raiſes a plentiful ſpitting. The leaves are conſiderably milder, and may be uſed to the quantity of three, four, or five grains. Geoffroy relates that after ſnuffing up a doſe of this errhine at night, he has frequently obſerved the diſcharge from the noſe to continue for three days together; and that he has known a paralyſis of the mouth and tongue cured by one doſe. He recommends this medicine in ſtubborn diſorders of the head, proceeding from viſcid tenacious matter, in palſies, and in ſoporific diſtempers. The leaves are the principal ingredient in the *pulvis ſternutatorius*, or *pulvis aſari compoſitus*, as it is now termed, of the ſhops.

ASPARAGUS [*Cos.*] *Radix, turiones.*

Aſparagus officinalis Lin.

Aſparagus; the root and ſhoots.

This plant is cultivated in gardens for culinary uſe. The roots have a bitteriſh mucilaginous taſte, inclining to ſweetneſs, the fruit has much the ſame kind of taſte; the young ſhoots are more agreeable than either. Aſparagus promotes appetite, but affords little nouriſhment. It gives a ſtrong ſmell to the urine in a little time after eating it, and for this reaſon chiefly it is ſuppoſed to be diuretic: it is likewiſe eſteemed aperient and deobſtruent. Some ſuppoſe the ſhoots to be moſt efficacious; others the root; and others the bark of the root. Aſparagus appears from experience to contribute very little either to the exciting of urine when ſuppreſſed, or increaſing its diſcharge; and in caſes where aperient medicines generally do ſervice, this has little or no effect.

ATRIPLEX FŒTIDA

[*Ed.*] *Herba.*

Chenopodium Vulvaria Lin.

Stinking orach; the leaves.

This is a low plant, ſprinkled all over with a kind of whitiſh clammy meal: it grows about dunghills, and other waſte places. The leaves have a ſtrong fetid ſmell, with which the hand by a ſlight touch, becomes ſo impregnated as not to be eaſily freed from it. Its ſmell has gained it the character of an excellent antihyſteric; and this is the only uſe to which it is applied. Tournefort recommends a ſpirituous tincture, others a decoction in water, and others a conſerve of the leaves, as of wonderful efficacy in uterine diſorders; but in the preſent practice it is little employed.

AVENA

[*Lond. Edin.*] *Semen.*

Avena ſativa Lin.

The oat; its ſeed.

This grain is an article rather of food than of medicine. It is ſufficiently nutritive and eaſy of digeſtion. The gruels made from it have likewiſe a kind of ſoft mucilaginous quality: by which they obtund acrimonious humours, and prove uſeful in inflammatory diſorders, coughs, hoarſeneſs, roughneſs and exulcerations of the fauces. They are by no means an unpleaſant, and at the ſame time a gently nutritive drink, in febrile diſeaſes in general.

AURANTIUM HISPALENSE

[*Lond.*] *Folium, ſlos, fructus, ſuccus, et cortex exterior.* [*Ed.*] *Folia, flores, aqua ſtillatitia et oleum eſſentiale florum, fructus, ſuccus, et cortex exterior.*

Citrus Aurantium Lin.

Seville orange; the leaf, flower, juice of the fruit, and its outer rind.

The orange is a beautiful evergreen tree or rather ſhrub; it is a native of the warmer climates, and does not eaſily bear the winters of Great Britain.

The flowers are highly odoriferous, and have been for ſome time paſt, in great eſteem as a perfume: their taſte is ſomewhat warm, accompanied with a degree of bitterneſs. They yield their flavour by infuſion to rectified ſpirit, and in diſtillation both to ſpirit and water; the bitter matter is diſſolved by water, and, on evaporating the decoction, remains entire in the extract. An oil diſtilled from theſe flowers is brought from Italy under the name of *oleum* or *eſſentia Neroli.*

Orange flowers were at one time ſaid to be an uſeful remedy in convulſive and epileptic caſes; but experience has not confirmed the virtues attributed to them. The leaves of the orange have alſo been recommended for the ſame purpoſe, but have by no means anſwered the expectations entertained by ſome.

The outer yellow rind of the fruit is a grateful aromatic bitter; and proves an excellent ſtomachic and carminative, promoting appetite, warming the habit, and ſtrengthening the tone of the viſcera. Orange peel appears to be very conſiderably warmer than that of lemons, and to abound more with eſſential oil; to this circumſtance therefore due regard ought to be had in the uſe of theſe medicines. The flavour of the firſt is likewiſe ſuppoſed to be leſs periſhable than that of the other: hence the London college employ orange peel in the ſpirituous bitter tincture, which is deſigned for keeping; while in the bitter watery infuſion, lemon-peel is preferred. A ſyrup and diſtilled water are, for the ſame reaſon, prepared from the rind of oranges in preference to that of lemons.

The outer rind of the orange is the baſis of a conſerve both in the Edinburgh and London pharmacopœias; and this is perhaps one of the moſt elegant and convenient forms for exhibiting it.

The juice of oranges is a grateful acid liquor, of conſiderable uſe in febrile or inflammatory diſtempers, for allaying heat, quenching thirſt, and promoting the ſalutary excretions: it is likewiſe of uſe in genuine ſcorbutus or ſea ſcurvy. Although the Seville, or *bitter-orange* as it is called, has alone a place in our pharmacopœias, yet the juice of the China orange, is much more employed. It is milder, and leſs acid; and is employed in its moſt ſimple ſtate with great advantage, both as a cooling medicine, and as an uſeful antiſeptic in fevers of the worſt kinds, and many other acute diſeaſes.

AURANTIA CURASLAVENSIA.

Curaſſao oranges.

Theſe are the ſmall young fruit of the Seville orange dried. They are moderately warm bitteriſh aromatics, of a flavour ſufficiently agreeable.

AURUM [*Brun.*]

Gold.

This metal was introduced into medicine by the Arabians, who eſteemed it one of the greateſt cordials and comforters of the nerves. From them Europe received it without any diminution of its character; in foreign pharmacopœias it is ſtill retained, and even mixed with the ingredients from which ſimple waters are to be diſtilled. But no one, it is preſumed, at this time, expects any ſingular virtues from it, ſince it certainly is not alterable in the human body. Mr Geoffroy, though unwilling to reject it from the cordial preparations, honeſtly acknowledges, that he has no other reaſon for retaining it, than complaiſance to the Arabian ſchools. The chemiſts have endeavoured, by many elaborate proceſſes, to extract what they call a ſulphur or anima of gold; but no method is as yet known of making this metal an uſeful medicine; all the tinctures of it, and aurum potabile, which have hitherto appeared, are real ſolutions of it in aqua regia, diluted with ſpirit of wine or other liquors, and prove injurious to the body rather than beneficial. A place, however, is now given in ſome of the foreign pharmacopœias to the aurum fulminans; and it has of late been recommended as a remedy in ſome convulſive diſeaſes, and particularly in the chorea ſancti Viti.

AXUNGIA PORCINA. See Sus.

BALSAMITA [*Gen.*] *Folia.*

Tanacetum Balſamita Lin.

Coſtmary; the leaves.

This was formerly a very common garden plant, and of frequent uſe both for culinary and medicinal purpoſes; but it is at preſent very little regarded for either; though it ſhould ſeem, from its ſenſible qualities, to be equal or ſuperior, as a medicine, to ſome aromatic herbs which practice has retained. The leaves have a bitteriſh, warm, aromatic taſte; and a very pleaſant ſmell, approaching to that of mint or a mixture of mint and maudlin. Water elevates their flavour in diſtillation; and rectified ſpirit extracts it by infuſion. It has been recommended in hyſterical affections; and has been ſuppoſed to be very powerful in correcting the influence of opium. The leaves ſhould be collected in the month of July or Auguſt.

BALSAMUM CANADENSE [*Lond. Ed.*]
Pinus balſamea Lin.
Canada balſam.

The Canada balſam is a tranſparent reſinous juice, of a light amber colour, and pretty firm conſiſtence, brought to this country from Canada in North America. It is a very pure turpentine, being the product of a ſpecies of fir. It has an agreeable ſmell, and a warm pungent taſte. Hitherto it has been but little employed in medicine: but is thought capable of anſwering every purpoſe for which the next article is employed.

BALSAMUM COPAIVA. [*Lond.*] COPAIBÆ [*Ed.*]
Copaifera Balſamum Lin.
Balſam of Copaiva.

The tree which produces this balſam is a native of the Spaniſh Weſt India Iſlands, and of ſome parts of the continent of South America. It grows to a large ſize, and the balſamum Copaiva flows, under the form of a reſinous juice, from inciſions made in the trunk.

The juice is clear and tranſparent, of a whitiſh or pale yellowiſh colour, an agreeable ſmell, and a bitteriſh pungent taſte. It is uſually about the conſiſtence of oil or a little thicker: when long kept, it becomes nearly as thick as honey, retaining its clearneſs; but has not been obſerved to grow dry or ſolid, as moſt of the other reſinous juices do. We ſometimes meet with a thick ſort of balſam of Copaiva, which is not at all tranſparent, or much leſs ſo than the foregoing, and generally, has a portion of turbid watery liquor at the bottom. This ſort is probably either adulterated by the mixture of other ſubſtances, or has been extracted by coction from the bark and branches of the tree: its ſmell and taſte are much leſs pleaſant than thoſe of the genuine balſam.

Pure balſam of Copaiva diſſolves entirely in rectified ſpirit, eſpecially if the menſtruum be previouſly alkalized: the ſolution has a very fragrant ſmell. Diſtilled with water, it yields a large quantity of a limpid eſſential oil; and in a ſtrong heat, without addition, a blue oil.

The balſam of Copaiva is an uſeful corroborating detergent medicine, accompanied with a degree of irritation. It ſtrengthens the nervous ſyſtem, tends to looſen the belly; in large doſes proves purgative, promotes urine, and cleanſes and heals exulcerations in the urinary paſſages, which it is ſuppoſed to perform more effectually than any of the other balſams. Fuller obſerves, that it gives the urine an intenſely bitter taſte, but not a violet ſmell as the turpentines do.

This balſam has been principally celebrated in gleets and the fluor albus, and externally as a vulnerary. The author above mentioned, recommends it likewiſe in dyſenteries, in ſcorbutic cachexies, in diſeaſes of the breaſt and lungs, and in an acrimonious or putreſcent ſtate of the juices: he ſays, he has known very dangerous coughs, which manifeſtly threatened a conſumption, cured by the uſe of this balſam alone; and that notwithſtanding its being hot and bitter, it has good effects even in hectic caſes. Moſt phyſicians ſeem now, however, to conſider balſam and reſins too ſtimulant in phthiſical affections.

The doſe of this medicine rarely exceeds twenty or thirty drops, though ſome authors direct ſixty or upwards. It may be conveniently taken in the form of an olœoſaccharum, or in that of an emulſion, into which it may be reduced, by triturating it with almonds, with a thick mucilage of gum-arabic, or with the yolk of eggs, till they are well incorporated, and then gradually adding a proper quantity of water.

BALSAMUM GILEADENSE [*Ed.*]

Amyris Gileadenſis Lin.

Balſam of Gilead.

This article, which has alſo had the name of Balſamum Judaiacum, Syriacum, e Mecca, Opobalſamum, &c. is a reſinous juice, obtained from an ever-green tree, growing ſpontaneouſly, near Mecca, on the Aſiatic ſide of the Red Sea. The beſt ſort of it is a ſpontaneous exudation from the tree; and is held in ſo high eſteem by the Turks, who are in poſſeſſion of the country where it is produced, that it is rarely, if ever, to be met with genuine among us. From the high price ſet upon it, many adulterations are practiſed. The true opobalſamum, according to Alpinus, is at firſt turbid and white, of a very ſtrong pungent ſmell, like that of turpentine, but much ſweeter; and of a bitter, acrid, aſtringent taſte: by being kept for ſome time, it becomes thin, limpid, of a greeniſh hue, then of a gold yellow, and at length of the colour of honey. According to Dr Alſton, the ſureſt mark of its being pure and unadulterated is its ſpreading quickly on the ſurface of water when dropt into it. He tells us, that if a ſingle drop be let fall into a large ſaucer full of water, it will immediately ſpread over its ſurface, and ſeem in a ſhort time to diſſolve or diſappear: but in about the ſpace of half an hour it becomes a tranſparent pellicle, covering the whole ſurface, and may be taken up with a pin. In this ſtate it has loſt both its fluidity and colour; it has become white and cohering, and has communicated its ſmell and taſte to the water. It is however, he obſerves, rare to get it in a condition that bears this teſt.

This balſam is in high eſteem among the eaſtern nations, both as a medicine and as an odoriferous unguent and coſmetic. It has been recommended in a variety of complaints; but its great ſcarcity has prevented it from coming into uſe among us; and it is now in general believed that the Canada and Copaiva balſam will anſwer every purpoſe for which it can be employed.

BALSAMUM PERUVIANUM [*Lond. Ed.*]

Myroxylon peruiferum Lin.

Balſam of Peru.

The common Peruvian balſam is ſaid to be extracted by coction in water, from an odoriferous ſhrub growing in Peru, and the warmer parts of America. This balſam, as brought to us, is nearly of the conſiſtence of thin honey, of a reddiſh brown colour, inclining to black, an agreeable aromatic ſmell, and a very hot biting taſte. Diſtilled with water, it yields a ſmall quantity of a fragrant eſſential oil of a reddiſh colour; and in a ſtrong fire, without addition, a yellowiſh red oil.

Balſam of Peru is a very warm aromatic medicine, conſiderably hotter and more acrid than Copaiva. Its principal effects are, to warm the habit, and to ſtrengthen the nervous ſyſtem. Hence its uſe in ſome kinds of aſthmas, gonorrhœas, dyſenteries, ſuppreſſions of the uterine diſcharges, and other diſorders proceeding from a debility of the ſolids. It is alſo employed externally, for cleanſing and healing wounds and ulcers; and ſometimes againſt palſies and rheumatic pains.

This balſam does not unite with water, milk, expreſſed oils, animal fats, or wax; it may be mixed in the cold with this laſt, and likewiſe with the ſebaceous ſubſtance called expreſſed oil of mace, but if the mixture be afterwards liquefied by heat, the balſam ſeparates and falls to the bottom. It may be mixed with water into the form of an emulſion, in the ſame manner as the balſam of Copaiva. Alkaline lixivia diſſolve great part of it; and rectified ſpirit the whole.

It is an ingredient in ſeveral officinal compoſitions: in ſome of which, as we ſhall afterwards endeavour to ſhow, it has rather a bad than a good effect.

There is another ſort of balſam of Peru, of a *white* colour, and conſiderably more fragrant than the former. This is very rarely brought to us. It is ſaid to be the produce of the ſame plant which yields the common or *black* balſam; and to exude from inciſions made in the trunk; while the former is obtained by boiling. There is alſo a third kind, commonly called the *red* or dry. This is ſuppoſed to obtain a different ſtate from the white, merely in conſequence of the treatment to which it is ſubjected after it is got from the tree. It is almoſt as fragrant as the balſam of Gilead, held in ſo high eſteem among the eaſtern nations. It is very rarely uſed in Britain, and almoſt never to be met with in our ſhops.

BALSAMUM RAKASIRI [*Brun.*]

We are leſs acquainted with the hiſtory of this balſam than any other. It is the product of an American tree unknown to us; and is ſuppoſed to be a ſpontaneous exudation. If the accounts given of it by ſeveral writers, particularly by Mr Fermin in his Hiſtory of Surinam, are to be depended on, it is one of the moſt powerful and uſeful balſams yet diſcovered. It is ſaid to poſſeſs all the virtues of balſamum Copaiva, but in a much higher degree. It is repreſented as a moſt uſeful application, both in caſes of recent wounds and old ulcers; and it is held forth as an infallible remedy, both for the gonorrhœa in men, and fluor albus in women. Theſe accounts, however, are ſolely founded on the repreſentation of the Indians, who are alone in the habit of uſing it; for hitherto it has been very little employed in Europe, and is very rarely to be met with.

BALSAMUM TOLUTANUM [*Lond. Ed.*]

Toluifera Balſamum Lin.

Balſam of Tolu.

This flows from a tree growing

in Tolu, in the Spaniſh Weſt-Indies; from whence the balſam is brought to us in little gourd ſhells. It is of a yellowiſh brown colour, inclining to red; in conſiſtence thick and tenacious: by age it grows hard and brittle, without ſuffering any great loſs of its more valuable parts. The ſmell of this balſam is extremely fragrant, ſomewhat reſembling that of lemons; its taſte warm and ſweetiſh, with little of the pungency, and nothing of the nauſeous reliſh, which accompany the other balſams. It has the ſame general virtues with the Peruvian; but is much milder, and for ſome purpoſes, particularly as a corroborant in gleets and ſeminal weakneſſes, is ſuppoſed to be more efficacious. It is an ingredient in the *ſyrupus tolutanus*, and *tinctura tolutana*.

BARDANA [*Lond. Ed.*] *Radix.*

Arctium Lappa Lin.

Burdock; the root.

This is a common plant about way-ſides, ſufficiently known from its ſcaly heads, or burs, which ſtick to the clothes. The ſeeds have a bitteriſh ſubacrid taſte: they are recommended as very efficacious diuretics, given either in the form of emulſion, or in powder, to the quantity of a drachm. The roots taſte ſweetiſh, with a ſlight auſterity and bitteriſhneſs: they are eſteemed aperient, diuretic, and ſudorific; and are ſaid to act without irritation, ſo as to be ſafely uſed in acute diſorders. Decoctions of them have of late been uſed in rheumatic, gouty, venereal, and other diſorders; and are preferred ſometimes to thoſe of ſarſaparilla.

BARILLA *Natrum impurum* [*Lond.*] *Kali Spinoſi cineres* [*Ed.*] *Natrum antiquorum Lin.*

Barilla, or impure foſſil alkali.

Barilla is a ſaline ſubſtance in a very impure ſtate, chiefly imported into Britain from the Mediterranean. Its great conſtituent is the foſſil alkali; and it is under that form alone that it is now employed in medicine, either by itſelf, or combined with other articles. Its medical virtues will therefore more properly be mentioned under the title of Natron præparatum of the London, and Soda purificata of the Edinburgh, college.

The barilla, or natron of the antients, has ſometimes been found native in the earth, particularly near Smyrna, and in different places of Aſia; it has alſo been found in ſome parts of Barbary, Hungary, and Ruſſia: but it is chiefly obtained by artificially ſeparating it from thoſe ſubſtances which contain it. Our barilla is chiefly imported from Spain, where it is obtained by the calcination of vegetables, particularly the kali, growing on the ſea ſhore. In Britain, much of it is obtained in a very impure ſtate, by the calcination of the different fuci, or ſea weeds, growing on the rocks, and covered by the ſea-water every tide. It is probable that all theſe different vegetables derive it entirely from the ſea-ſalt. It is to be hoped, however, that a proceſs will be diſcovered for obtaining it from ſea-ſalt in an eaſy manner, and at a cheaper rate, than it is at preſent imported or obtained at home.

BARYTES [*Ed.*]

Terra Ponderoſa, or heavy earth.

This earth is one of thoſe of the alkaline or abſorbent kind, and differs from the reſt in many reſpects, but chiefly in weight, being nearly twice as heavy as lime, magneſia, or clay in weight.

It is found in moſt metallic veins, eſpecially thoſe of lead, differently combined, but chiefly with fixed air or with vitriolic acid. The firſt or aerated barytes, is called by the workmen, when cryſtalliſed, coxcombſpar: it is however ſeldom found cryſtalliſed but more commonly filling up the whole cavity of the vein; it is then compact and breaks with a glaſſy ſurface; and appears to be compoſed of rays converging to a centre. It effervеſces with all the acids properly diluted, and is ſoluble in the vitrous and muriatic. The vitriolated barytes is heavier, and much more tranſparent than the aerated, has a rhomboidal texture and a bright ſurface, and is called, by many writers on mineralogy, Marmor metallicum. It does not effervеſce with the acids, nor it is ſoluble in any of them.

The aerated barytes in powder has been long employed by the miners as a poiſon for rats and other vermin. We do not know that it was ever adminiſtered as a medicine. Dr Crawford firſt propoſed barytes as a remedy for ſcrophula, and the form he recommended was, the ſolution of it in muriatic acid. Subſequent trials have in ſome meaſure confirmed this opinion; but farther experiments ſeem requiſite for eſtabliſhing it. The muriated braytes is made by diſſolving the aerated barytes in a very dilute muriatic acid (namely the ordinary acid diluted with 10 or 12 times its weight of water); when the ſolution is ſaturated and filtered it muſt be evaporated ſlowly and ſet to cryſtalliſe.

The beſt manner of aſcertaining the doſe, and of exhibiting this active medicine, is by means of a ſolution of the cryſtalliſed ſalt in water. The ſolution which ſome of the beſt practitioners here prefer, is one fully ſaturated with the ſalt: of this they give to an adult 10 drops three times a day: and increaſe the doſe by adding one drop to each, every ſecond day. Some conſtitutions bear 40 drops or more for a doſe, while a much leſs quantity ſickens others.

Its effects are to increaſe all the excretions, and to diſpoſe ichorous ſores to heal. It has been uſed, in this place, by ſeveral practitioners of eminence; who all agree in thinking it a medicine of great utility, and a valuable acquiſition to the materia medica.

BDELLIUM [*Suec.*]

Bdellium: gummi reſina.

Bdellium is a gummy-reſinous concrete juice brought from Arabia and the Eaſt-Indies, in maſſes of different figures and magnitudes. It is of a dark reddiſh brown colour, and in appearance ſomewhat reſembles myrrh; it is ſemi-tranſparent, and, as Geoffroy juſtly obſerves, looks like glue. It grows ſoft and tenacious in the mouth, ſticks to the teeth, has a bitteriſh taſte, and not a diſagreeable ſmell. Bdellium is recommended as a ſudorific, diuretic, and uterine; and in external applications for maturating tumours, &c. In the preſent practice, it is ſcarcely uſed. And accordingly it has now no place either in the London or Edinburgh Pharmacopœias; but it is ſtill retained in ſeveral of the lateſt foreign ones, and enters ſome of their plaſters.

BECCABUNGA [*Lond*] *Herba.*

Veronica Beccabunga Lin.

Brooklime: the herb.

This is a low plant, common in

little rivulets and ditches of ſtanding water. The leaves remain all the winter, but are in greateſt perfection in the ſpring. Their prevailing taſte is an herbaceous one, accompanied with a very ſlight bitterneſs.

Beccabunga has been ſuppoſed to have a ſaponaceous detergent virtue, without pungency or irritation: hence it has been directed in thoſe ſpecies of ſcurvy where the *cochlearia*, and other acrid antiſcorbutics, were ſuppoſed to be leſs proper. If any virtue is expected from beccabunga, it ſhould be uſed as food.

BELLADONA [*Ed.*] *Folia.*

Atropa Belladona Lin.

Deadly nightſhade.

The deadly nightſhade is a native of Britain, growing in many different places, and in conſiderable abundance. It has long been conſidered, which indeed may be inferred from the name, as one of the moſt deleterious of the vegetable narcotic poiſons. It has, however, for a conſiderable number of years been employed in the practice of medicine, both externally and internally; and it has accordingly got a place in ſucceſſive editions of the Edinburgh pharmacopœia. It is an article of great activity, and under prudent management may be uſed with ſafety.

The belladona taken internally, has been highly recommended in cancer by ſeveral writers, particularly by Dr Lambergen and Dr Munch, in treatiſes profeſſedly publiſhed with the intention of recommending it. Beſides a very remarkable narcotic power, this vegetable poſſeſſes conſiderable influence in promoting all the excretions, particularly ſweat, urine, and ſaliva. It has been employed under the form of infuſion, made of the dried leaves, to the extent of a ſcruple in a conſiderable quantity of water, and taken in the courſe of a day. It is thought to be much injured by heat, and therefore ſome practitioners prefer the dry powder to the decoction or infuſion: and thus employed, the doſe is limited to a few grains.

Beſides cancer, ſchirrus, and other obſtinate tumours, it has been employed with ſucceſs in ſome caſes of melancholia, mania, and epilepſia.

Externally, it has been applied to open cancers under the form of an infuſion of the dried leaves; and to occult ones, the recent leaves have been applied in ſubſtance. And there are well authenticated caſes on record of good effects being obtained from it in both theſe ways.

BENZOE [*Lond.*] BENZOINUM [*Ed.*] *Reſina.*

Styrax Benzoë.

Benzoine, the reſin.

Benzoine is a concrete reſinous juice. It is brought from the Eaſt-Indies only; in large maſſes compoſed of white and light brown pieces, or yellowiſh ſpecks, breaking very eaſily between the hands: ſuch as is whiteſt, and free from impurities, is moſt eſteemed.

In moſt of the new foreign pharmacopœias benzoine is ſaid to be obtained from the Croton benzoe of Linné. But Dr Dryander of London has, in the Philoſophical Tranſactions, deſcribed the tree producing it, to which he gives the name of *ſtyrax benzoë.* It grows chiefly in the iſland of Sumatra.

This reſin has a very little taſte, impreſſing only a ſlight ſweetneſs on the tongue: its ſmell is extremely fragrant and agreeable, eſpecially when heated. Committed to the fire in proper veſſels, it yields a conſiderable quantity of a white ſaline concrete called *flowers*, of an acidulous taſte and grateful odour, ſoluble in rectified ſpirit; and, by the aſſiſtance of heat, in water.—We ſhall have occaſion to treat of theſe afterwards.

The principal uſe of benzoine is in perfumes, and as a coſmetic: it is rarely met with in extemporaneous preſcriptions, and enters in ſubſtance only one officinal compoſition, the *balſamum aromaticum*, or *tinctura benzoes compoſita*, as it is now more properly ſtyled by the London college. It ſeems to have no ill title to the virtues of ſtorax and balſam of Tolu, at leaſt in a ſubordinate degree. The flowers are recommended in diſorders of the breaſt; and with this intention they are made an ingredient in the *paregoric elixir*, or camphorated tincture of opium.

BERBERIS [*Suec.*] *Cortex, baccarum ſuccus.*

Berberis vulgaris Lin.

Barberry, the bark of the tree and the juice of the berries.

The barberry is a ſmall tree, or rather a large buſh, covered with an aſh-coloured bark, under which is contained another of a deep yellow: the berries are of an elegant red colour, and contain each two hard brown ſeeds. It grows wild on chalky hills in ſeveral parts of England; and is frequently planted in hedges and in gardens.

The outward bark of the branches, and the leaves, have an aſtringent acrid taſte; the inner yellow bark, a bitter one; this laſt is ſaid to be ſerviceable in the jaundice; and to be an uſeful purgative.

The berries, which to the taſte are gratefully acid, and moderately reſtringent, have been given with good ſucceſs in bilious fluxes, and diſeaſes proceeding from acrimony. Among the Egyptians, barberries are employed in fluxes and in malignant fevers, for abating heat, quenching thirſt, raiſing the ſtrength, and preventing putrefaction; the fruit is macerated for a day and night, in about twelve times its quantity of water, with the addition of a little fennel ſeed, or the like, to prevent offence to the ſtomach; the liquor ſtrained off, and ſweetened with ſugar, or ſyrup of citrons, is liberally given the patient to drink. Proſper Alpinus (from whoſe treatiſe *De medicina Egyptiorum* this account is extracted) informs us, that he took this medicine himſelf with happy ſucceſs, in a peſtilential fever accompanied with an immoderate bilious diarrhœa.

The barberry, however, is now ſo little uſed for medical purpoſes in Britain, that it is rejected from the liſt both of the London and Edinburgh colleges.

BETA [*Gen.*] *Folium, radix.*

Beta vulgaris Lin.

The white and red beet; the root and leaves.

Theſe plants are cultivated in gardens chiefly for culinary uſe.

BETONICA [*Brun.*] *Folia et flores.*

Betonica officinalis Lin.

Betony; the leaves and flowers.

Betony is a low plant, growing in woods and ſhady places, in ſeveral parts of England: the flowers come forth in June and July; they are of a purpliſh colour, and ſtand in ſpikes on the tops of the ſtalks. The leaves and flowers have an herbaceous, roughiſh, ſomewhat bitteriſh taſte, accompanied with a very weak aromatic flavour. This herb has long been a favourite among writers on the materia medica, who have not been wanting to attribute to it abundance of good qualities. Experience does not diſcover any other virtue in betony than that of a mild corroborant; as ſuch, an infuſion or light decoction of it may be drank as tea, or a ſaturated tincture in rectified ſpirit given in ſuitable doſes, in laxity and debility. The powder of the leaves, ſnuffed up the noſe, provokes ſneezing; and hence betony is ſometimes made an ingredient in ſternutatory powders: this effect does not ſeem to be owing, as is generally ſuppoſed, to any peculiar ſtimulating quality in the herb, but to the rough hairs with which the leaves are covered. The roots of this plant differ greatly in quality from the other parts; their taſte is bitter and very nauſeous: taken in a ſmall doſe, they vomit and purge violently, and are ſuppoſed to have ſomewhat in common with the roots of hellebore. It is pretty ſingular, if true, that betony affects thoſe who gather any conſiderable quantity of it, with a diſorder reſembling drunkenneſs; as affirmed by Simon Paulli and Bartholinus.

From theſe ſenſible qualities and operative effects, although it has now no place in our pharmacopœias, it certainly deſerves attention.

BETULA [*Gen.*] *Cortex, ſuccus.*

Betula alba Lin.

The birch tree; the bark and ſap.

This tree grows wild in moſt woods: its bark conſiſts of a thick brittle ſubſtance of a browniſh red colour; and of ſeveral very thin, ſmooth, white, tranſparent membranes. Theſe laſt are highly inflammable; and though ſcarcely of any particular ſmell or taſte, abound with reſinous matter: the thick brittle part is leſs reſinous, and in taſte roughiſh; of the medical virtues of either, little or nothing is known with certainty.

On wounding or boring the trunk of the tree in the beginning of ſpring, a ſweetiſh juice iſſues forth, ſometimes, as is ſaid, in ſo large a quantity as to equal in weight the whole tree and root: one branch will bleed a gallon or more in a day. This juice is chiefly recommended in ſcorbutic diſorders; its moſt ſenſible effect is to promote the urinary diſcharge.

BEZOAR [*Brun.*]

Calculus capræ bezoardicæ.

Bezoar ſtone.

The bezoar ſtone is a calculous concretion found in the ſtomach of certain animals, which are ſaid to be of the goat kind. It is compoſed of concentrical coats ſurrounding one another, with a little cavity in the middle, containing a bit of wood, ſtraw, hair, or ſome ſimilar ſubſtance.

Bezoar was not known to the antient Greeks; and is firſt token notice of by the Arabians, who extol it in a great variety of diſorders, particularly againſt poiſons. Later writers alſo beſtow extraordinary commendations on it as a ſudorific and alexipharmic; virtues, to which it certainly has no pretence. It is a morbid concretion, of no ſmell or taſte, not digeſtible in the ſtomach of the animal in which it is found, and ſcarcely capable of being acted on by any of the juices of the human body. It cannot be conſidered in any other light than as an abſorbent; and is much the weakeſt of all the common ſubſtances of that claſs. It has been given to half a drachm, and ſometimes a whole drachm, without any ſenſible effect; though the general doſe is only a few grains, from which nothing can be expected.

BISMUTHUM [*Brun.*]
Viſmuthum nativum.
Biſmuth.

A calx and flowers of this ſemimetal have been recommended as ſimilar in virtue to certain antimonial preparations; but are at preſent of no other uſe than as a pigment or coſmetic; and it is now rejected from the Britiſh pharmacopœias.

BISTORTA [*Lond. Ed.*] *Radix*
Polygonum Biſtorta Lin.
Biſtort, or ſnakeweed; the root.

This plant grows wild in moiſt meadows in ſeveral parts of England. The root is about the thickneſs of the little finger, of a blackiſh brown colour on the outſide, and reddiſh within: it is writhed or bent vermicularly (whence the name of the plant) with a joint at each bending, and full of buſhy fibres; the root of the ſpecies here mentioned has, for the moſt part, only one or two bendings: others have three or more.

All the parts of biſtort have a rough auſtere taſte, particularly the root, which is one of the ſtrongeſt of the vegetable aſtringents. It is employed in all kinds of immoderate hæmorrhagies and other fluxes, both internally and externally, where aſtringency is the only indication. It is certainly a very powerful ſtyptic, and is to be looked on ſimply as ſuch; to the ſudorific, antipeſtilential, and other virtues attributed to it, it has no other claim than in conſequence of its aſtringency, and of the antiſeptic power which it has in common with other vegetable ſtyptics. The largeſt doſe of the root in powder is one drachm.

BOLI.

Boles are viſcid clayey earths, leſs coherent and more friable than clay ſtrictly ſo called. They are ſoft and unctuous to the touch, adhere to the tongue and by degrees melt in the mouth, impreſſing a ſlight ſenſe of aſtringency. A great variety of theſe kinds of earths were formerly uſed in medicine; the principal of which are the following.

(1) Bolus Armena [*Suec.*]
Armenian bole, or bole armenic.

Pure Armenian bole is of a bright red colour, with a tinge of yellow: It is one of the hardeſt and moſt compact of the bodies of this claſs, and not ſmooth or gloſſy like the others; but generally of a rough duſty ſurface. It raiſes no effervеſcence with acids.

(2) Bolus Gallicus [*Lond.*]
French bole.

The common French bole is of a pale red colour, variegated with irregular ſpecks or veins of white and yellow. It is much ſofter than the foregoing; and ſlightly effervеſces with acids.

(3) Bolus Blesensis. Bole of Blois.

This is a yellow bole, remarkably lighter than the former, and than moſt of the other yellow earths. It effervesces ſtrongly with acids.

(4) Bolus Bohemica. Bohemian bole.

This is of a yellow colour, with a caſt of red, generally of a flaky texture. It is not acted on by acids.

(5) Terra Lemnia. Lemnian earth.

This is a pale red earth; ſlightly effervescing with acids.

(6) Terra Silesiaca. Sileſian earth.

This is of a browniſh yellow colour: acids have no ſenſible effect on it. Theſe and other earths, made into little maſſes, and ſtamped with certain impreſſions, are called *terræ ſigillatæ.*

The boles of Armenia and Blois, and the Lemnian earth, are rarely met with genuine in the ſhops; the coarſer boles, or white clay coloured with ochre, caput mortuum of vitriol, &c. frequently ſupply their place. The genuine may be diſtinguiſhed by their ſubſiding uniformly from water, without any ſeparation of their parts; the genuine yellow boles retain their colour, or have it deepened, in the fire: while the counterfeit ſorts burn red.

Theſe earths have been recommended as aſtringent, ſudorific, and alexipharmic; and they have been uſed in diarrhœas, dyſenteries, hæmorrhagies, and in malignant and peſtilential diſtempers. In inteſtinal fluxes, and complaints in the firſt paſſages, from thin acrimonious humours, they may doubtleſs be of ſome uſe; but the virtues aſcribed to them in the other caſes appear to have no foundation.

BORRAGO [*Gen.*] *Herba.*

Borrago officinalis Lin.

Borage; the herb.

This is a rough plant, clothed with ſmall prickly hairs; it grows wild in waſte places, and upon old walls. An exhilarating virtue has been attributed to the flowers of borage, but they appear to have very little claim to any virtue of this kind, and ſeem to be altogether inſignificant.

BORAX [*Lond. Ed.*]

Natron boracicatum.

Borax, or tincal.

This is a ſaline ſubſtance, brought from the Eaſt Indies in great maſſes, compoſed of a few large cryſtals, but chiefly of ſmaller ones, partly white and partly green, joined together as it were by a greaſy yellow ſubſtance, intermixed with ſand, ſmall ſtones, and other impurities: the purer cryſtals, expoſed to the fire, melt into a kind of glaſs, which is nevertheleſs ſoluble in water.

This ſalt, diſſolved and cryſtalliſed, forms ſmall tranſparent maſſes: the refiners have a method of ſhooting it into large cryſtals; but theſe differ in ſeveral reſpects from the genuine ſalt, inſomuch that Cramer calls them not a purified, but adulterated borax. Experiments have clearly ſhewn, that it conſiſts of foſſil alkali in ſome degree neutraliſed by a peculiar acid.

The medical virtues of borax have not been ſufficiently aſcertained by experience: it is ſuppoſed to be, in doſes of half a drachm or two ſcruples, diuretic, emenagogue, and a promoter of delivery. Mr Biſſet, in an eſſay on the medical conſtitution of Great Britain, recommends a ſolution of this ſalt in water, as the moſt powerful diſſolvent yet known, of aphthous cruſts in the mouth and fauces of children. And for the ſame purpoſe alſo a ſmall quantity of it is often applied in the form of powder mixed up with ſugar. There are ſtrong reaſons to believe, that the virtues of borax are much greater than they are in general ſuppoſed to be; and that it may be more extenſively uſed with advantage.

BOTHRYS [*Suec.*] *Herba, ſemen.*

Chenopodium Botrys Lin.

Jeruſalem oak: the leaves and ſeed.

This plant is cultivated in gardens. It has a ſtrong not diſagreeable ſmell, and a warm ſomewhat pungent taſte. It is recommended as a carminative pectoral; and it has alſo been highly extolled as an emmenagogue. Infuſions of it may be drank as tea: and in this form it has been recommended in caſes of chronic catarrh. But the proper menſtruum for the active matter, both of the leaves and ſeed, is rectified ſpirit.

BRASSICA [*Gen.*] *Herba, ſemina.*

Braſſica oleracea Lin.

White and red cabbages, Cauliflower, Brocoli, &c.

Theſe are cultivated in gardens rather for culinary than medicinal uſe. They are all ſuppoſed to be hard of digeſtion, to afford little nouriſhment, and to produce flatulencies; though probably on no very good foundation. They tend ſtrongly to putrefaction, and run into this ſtate ſooner than almoſt any other vegetable: when putrid, their ſmell is likewiſe the moſt offenſive, greatly reſembling that of putrified animal ſubſtances. Hence it ſeems reaſonable to conclude, that few of the oleraceous herbs are more eaſily ſoluble in the ſtomach, more nutritious or leſs remote from the nature of animal food. It is undeniable, that in general at leaſt they are not unwholeſome; that they do not induce or promote a putrid diſpoſition in the body; but on the contrary prove a ſalubrious aliment; that when taken freely, they tend to looſen the belly; and that their laxative matter is extracted by long boiling in water. Of all theſe plants, cauliflower is reckoned the eaſieſt of digeſtion. The white cabbage is the moſt fetid; and the red the moſt emollient or laxative: a decoction of this laſt is recommended in ſome diſorders of the breaſt and in hoarſeneſs.

Sliced cabbages, caſked up with ſalt, &c. becomes ſour, and is uſed in Germany at table under the name of ſourcrout; and it has lately been introduced as an article of diet with the Britiſh forces, either in garriſons beſieged, or on long voyages. It is now clearly demonſtrated, that in theſe ſituations it operates as a moſt powerful preventive of the ſcurvy; and that it has even had very great influence in curing the diſeaſe after it has taken place.

Cabbage has alſo been uſed externally applied. The leaves gently bruiſed are often applied to parts previouſly bliſtered, with the effect of promoting a diſcharge. They excite a conſiderable watery diſcharge through the ſkin in caſes of anaſarca, particularly when applied to the ancles: And they have ſometimes even the effect of inducing veſications. As thus externally applied, they have in ſome inſtances produced a complete diſcharge of the water in caſes of anaſarca.

BRASSICA MARINA *Brun.*

Convolvulus Soldanella Lin.

Sea-coleworts, Scots ſcurvygraſs, or ſoldanella: the leaves.

This is a trailing plant, growing on the ſea beach in many parts of the north of England. The roots, leaves, and ſtalks, yield a milky juice.

Soldanella is a ſtrong and violent cathartic, and hence deſervedly rejected from practice. Thoſe who recommend its uſe differ conſiderably with regard to the doſe; ſome direct half a drachm; others three drachms, and others a whole handful.

BRITANNICA, See HYDROLAPATHUM.

BRYONIA [*Ed.*] *Radix.*

Bryonia alba Lin.

White bryony, or wild vine; the roots.

This is a rough plant, growing on dry banks under hedges, and climbing upon the buſhes The roots are large, ſometimes as thick as a man's thigh; their ſmell, when freſh, is ſtrong and diſagreeable; the taſte nauſeouſly bitter, acrid, and biting; the juice is ſo ſharp, as in a little time to excoriate the ſkin: in drying, they loſe great part of their acrimony, and almoſt the whole of their ſcent.

Bryony root is a ſtrong irritating cathartic; and as ſuch has ſometimes been ſucceſsfully exhibited in maniacal caſes, in ſome kinds of dropſies, and in ſeveral chronical diſorders, where a ſudden ſtimulus is required. An extract prepared by water, acts more mildly and with greater ſafety than the root in ſubſtance; given from half a drachm to a drachm, it is ſaid to prove a gentle purgative, and likewiſe to operate powerfully by urine.

Bryony root, applied externally, is ſaid to be a powerful diſcutient. Hence, although this as well as many other draſtic and active articles are now rejected by the London college, yet it ought to be retained, and a place ſhould alſo be given in our pharmacopœias to the extract.

BUGLOSSUM [*Gen.*] *Radix, folia.*

Anchuſa officinalis Lin.

Garden bugloſs; the root and leaves.

This is a rough, hairy plant, reſembling borage, but leſs prickly: a wild ſort is commonly met with in hedges and among corn, which differs from the garden one in being ſmaller. Bugloſs has a ſlimy ſweetiſh taſte, accompanied with a kind of coolneſs: the roots are the moſt glutinous, and the flowers the leaſt ſo. The flowers were ſuppoſed to be cordial; the only quality they have that can entitle them to this appellation, is, that they moderately cool and ſoften without offending the palate or ſtomach; and thus, in warm climates, or in hot diſeaſes, may in ſome meaſure refreſh the patient; but at preſent they are very rarely employed.

BURSA PASTORIS [*Brun.*] *Folia.*

Thlaſpi burſa paſtoris Lin.

Shepherd's purſe; the leaves.

This plant is common in waſte places, and is found in flower all the ſummer. Shepherds-purſe has long been celebrated as an aſtringent, and ſtrongly recommended in diarrhœas, dyſenteries, uterine fluors, and in general in all diſeaſes where aſtringents of any kind can avail. Some have eſteemed it ſo powerful a ſtyptic, as ſcarcely to be ſafely exhibited internally. Others have thought it to be of a hot fiery nature, and ſuppoſed it to ſtop fluxes and hæmorrhagies, by coagulating the juices like alkohol, and burning or ſearing the orifices of the veſſels. The ſenſible qualities of ſhepherds-purſe diſcover little foundation for either of theſe opinions; it has no perceptible heat, acrimony, or pungency, and ſcarcely any aſtringency; the taſte is almoſt merely herbaceous, ſo as ſufficiently to warrant the epithet given this plant by Mr Ray, *Fatuum.*

BUXUS [*Brun.*] *Folia, Lignum,*

Buxus ſempervirens Lin.

Box tree; the leaves and wood.

The box is a ſmall tree, growing wild in ſome places of Kent and Surry. The wood is of a yellow colour, more ſolid, compact, and ponderous than any other of the European woods. The leaves have a ſtrong nauſeous taſte, and, when freſh, a fetid ſmell: they are ſaid, to purge violently, in the doſe of a drachm. A decoction of the wood is recommended as powerfully ſudorific preferable even to guaiacum: but the taſte readily diſcovers that it wants the qualities of that wood. Neither the wood nor leaves are at preſent employed for any medicinal purpoſe in Britain; and they are now rejected by our colleges: But from their active qualities, particularly that of the leaves, they deſerve ſome attention, and may perhaps be advantageouſly ſubſtituted for expenſive articles imported from abroad.

CACOA [*Suec.*] *Nuclei.*

Theobroma Cacoa Lin.

Chocolate nuts.

Theſe are the fruit of an American tree reſembling the almond. The tree, though ſmall, bears a large fruit ſhaped like a cucumber, which contains thirty or more of the nuts. Theſe, by preſſure, yield a conſiderable quantity of a fluid oil. Boiled in water, they give out a large portion of a ſebaceous matter, which congeals on the ſurface of the liquor as it cools. The principal uſe of theſe nuts is for the preparation of chocolate, which is a mild, unctuous, nutritious fluid, of great ſervice in conſumptive diſorders; eſpecially if made with milk, and with only a ſmall proportion of aromatics.

CAJEPUT [*Edin.*] *Oleum.*

Maleleuca leucadendron Lin.

Cajeput oil,

This article is mentioned by ſeveral writers on the materia medica as being in very high eſteem among the eaſtern nations: though it had been long in ſome of the foreign pharmacopœias, it never entered the liſt of the Britiſh till the laſt Edition but one of the Edinburgh pharmacopœia. It is ſaid to be obtained by diſtillation, from the fruit of the maleleuca leucadendron. When brought into this country it is a liquid of a greeniſh colour, of a fragrant, but at the ſame time a very peculiar odour, and of a warm pungent taſte. Some authors, however, repreſent this oil as being, when of the beſt quality, a white or colourleſs fluid; and it has been ſaid by the authors of the diſpenſatorium Brunſvicenſe when prepared in Europe from the ſeeds ſent from India, to be entirely of this appearance.

Hitherto the oleum cajeput has been but little employed, either in Britain or on the continent of Europe; but in India it is uſed both internally, and externally, and is highly extolled for its medical properties. It is applied externally where a warm and peculiar ſtimulus is requiſite; it is employed for reſtoring vigour after luxations and ſprains, and for eaſing violent pain in gouty and rheumatic caſes, in tooth-ach, and ſimilar affections; but it has been chiefly celebrated as taken internally, and it is particularly ſaid to operate as a very powerful remedy againſt tympanitic affections.

CALAMINARIS LAPIS [*Lond. Ed.*]

Zincum calaminaris.

Calamy, or calamine ſtone.

This mineral is found plentifully in England, Germany, and other countries, either in diſtinct mines, or intermixed with the ores of different metals. It is uſually of a greyiſh, browniſh, yellowiſh, or pale reddiſh, colour; conſiderably hard, though not ſufficiently ſo to ſtrike fire with ſteel. Calamine is generally roaſted or calcined before it comes into the ſhops, in order to ſeparate ſome ſulphureous or arſenical matter, which the crude mineral is ſuppoſed to contain, and to render it more eaſily reducible into a fine powder. In this ſtate it is employed in collyria, againſt defluxions of thin acrid humours upon the eyes; for drying up moiſt, running ulcers; and healing excoriation. It is the baſis of the *Ceratum lapidis calaminaris.*

CALAMUS AROMATICUS [*Lond.*] *Radix.*

ACORUS [*Ed.*] *Radix.*

Acorus Calamus Lin.

Sweet flag; the roots.

This flag reſembles, as to its leaves, the common *iris;* but in other reſpects differs greatly from it: the ſtalk grows at a little diſtance from the leaves; the lower half, up to where the flowers come forth, is roundiſh; the part above this, broad like the other leaves; the flowers are very ſmall, whitiſh, and ſtand in a kind of head about the ſize of a finger. This plant grows plentifully in rivulets and marſhy places about Norwich, and other parts of this iſland, in the canals of Holland, in Switzerland, and in other countries of Europe. The ſhops have been uſually ſupplied from the Levant with dried roots, which do not appear to be ſuperior to thoſe of our own growth.

The root of acorus is full of joints, crooked, ſomewhat flatted on the ſides, internally of a white colour, and looſe ſpongy texture: its ſmell is ſtrong; the taſte warm, acrid, bitteriſh, and aromatic; both the ſmell and taſte are improved by exſiccation. This root is generally conſidered as a carminative and ſtomachic medicine, and as ſuch is ſometimes uſed in practice. It is ſaid by ſome to be ſuperior in aromatic flavour to any other vegetable that is produced in theſe northern climates: but this aſſertion is by no means ſtrictly true. It is, nevertheleſs, a ſufficiently elegant aromatic. It was formerly an ingredient in the mithridate and theriaca of the London pharmacopœia; and in the aromatic and ſtomachic tinctures, and compound arum powder, of the Edinburgh; but it is now rejected from theſe, and it does not at preſent enter any officinal preparation. The freſh root, candied after the manner directed for candying eryngo root, is ſaid to be uſed at Conſtantinople as a preſervative againſt epidemic diſeaſes. The leaves of this plant have a ſweet fragrant ſmell, more agreeable, though weaker than that of the roots; but they have no place either in the Britiſh or foreign pharmacopœias.

CALENDULA [*Brun.*] *Flos. Calendula Officinalis Lin.*

Garden marigold; the flower.

This herb is common in gardens, where it is found in flower greateſt part of the ſummer. Marigold flowers were ſuppoſed to be aperient and attenuating; and alſo cardiac, alexipharmic, and ſudorific: they have been principally celebrated in uterine obſtructions, in the jaundice, and for throwing out the ſmall-pox. Their ſenſible qualities give little foundation for theſe virtues: they have ſcarcely any taſte, and no conſiderable ſmell. The leaves of the plant diſcover a viſcid ſweetiſhneſs, accompanied with a more durable ſaponaceous pungency and warmth: theſe ſeem capable of anſwering ſome uſeful purpoſes, but at preſent they are ſo little employed in Britain, that they have now no place in our pharmacopœias, and they are alſo rejected from ſeveral of the lateſt and beſt foreign ones.

CALX [*Lond.*]

Lapis calcareus purus recens uſtus.

CALX VIVA [*Edin.*] *Ex lapide calcareo & Ex teſtis conchyliorum.*

Quicklime.

Quicklime is uſually prepared among us by calcining certain ſtones of the chalky kind. All chalks and marbles burn into quicklime; with this difference that, the more compact the ſtone, the ſtronger is the lime. In maritime countries, in defect of the proper ſtones, ſea-ſhells are uſed, which afford a calx agreeing in moſt reſpects with the ſtone limes.

All theſe limes are, when freſh burnt, highly acrimonious and corroſive, being thus freed from fixt air. In this ſtate they are employed in ſome external applications as a depilatory; for rendering ſulphur ſoluble in water, and for depriving alkalies of their fixt air, thus increaſing their power, either for the purpoſes of a cauſtic, or to enable them more readily to diſſolve oils for making ſope. If the lime be expoſed for a length of time to the air, it abſorbs water; falls by degrees into a powder; and, by attracting fixt air, loſes its acrimony.

Water poured directly upon quicklime, takes up a portion of it: the ſolution has a ſtrong taſte, ſomewhat ſtyptic, drying the mouth, and accompanied with a kind of ſweetneſs. This liquor does not effervesce with acids, but is rendered by fixt air turbid and milky: as preventing the coagulation of milk, it is ſometimes uſed along with milk diet; agitated with expreſſed oils it unites with them into a thick compound, recommended and much uſed againſt burns and inflammations. Both the ſimple ſolution of the lime, and the ſolution impregnated with other materials, are directed as officinal, under the title of lime water.

Lime-water, drank to the quantity of a quarter of a pint three or four times a-day, and long continued, has been found ſerviceable in ſcrophulous caſes, and other obſtinate chronic diſorders. It frequently promotes urine and perſpiration:

ſpiration: for the moſt part it binds the belly, and ſometimes produces troubleſome coſtiveneſs, unleſs this effect be occaſionally provided againſt, by the interpoſition of proper medicines. It does good ſervice in debility and laxity of the viſcera in general; in thoſe of the uterine and ſeminal veſſels, fluor albus, chronic menorrhagia, and gleets, it is particularly recommended. It has been uſed as a lithontriptic: and although incapable of diſſolving calculi in the urinary organs, yet under its uſe calculous patients have experienced great relief. In the form of injection it is very effectual in killing and bringing off aſcarides.

CAMPHORA [*Lond. Ed.*]
Laurus Camphora Lin.
Camphor.

Camphor is a very peculiar ſubſtance, obtained in the form of a ſolid concrete, chiefly extracted from the wood and roots of a tree growing in Sumatra and Japan. The former is by much the beſt. As it firſt ſublimes from the wood, it appears browniſh, compoſed of ſemipellucid grains mixed with dirt: in this ſtate it is exported by the Dutch, and purified by a ſecond ſublimation; after which it is reduced into loaves (in which it is brought us) probably by fuſion in cloſe veſſels; for it does not aſſume this form in ſublimation. Camphor is procurable in ſmall quantities from various other vegetables by diſtillation. It may be conſidered as a peculiar, concrete, very volatile eſſential oil.

Pure camphor is very white, pellucid, ſomewhat unctuous to the touch; of a bitteriſh, aromatic, acrid taſte, yet accompanied with a ſenſe of coolneſs; of a ſmell ſomewhat like that of roſemary, but much ſtronger. It is totally volatile and inflammable; ſoluble in vinous ſpirits, oils, and the mineral acids; not in water, alkaline liquors, or the acids of the vegetable kingdom. This concrete is eſteemed one of the moſt efficacious diaphoretics; and has long been celebrated in malignant fevers, and epidemical diſtempers. In delirium, where opiates fail of procuring ſleep, and aggravate the ſymptoms, this medicine frequently ſucceeds.

Dr Alexander, ſome time ago a practitioner in Edinburgh, made many experiments on this article, particularly by taking it himſelf in large doſes. On taking a ſcruple of camphor, he found his pulſe ſomewhat leſs frequent; on taking two, his pulſe fell from 77 to 70, but returned to 77 in leſs than half an hour; at which time vertigo and a gradual abolition of conſciouſneſs came on, ſucceeded by violent retchings, convulſions, and mania, the pulſe riſing to 100. He then began to recover his recollection, felt extremely hot, with tremors of the whole body. By uſing warm water he threw up the camphor, the effects of which gradually wore of, only he felt his body for two days very ſore and rigid.

Frederick Hoffman has written an expreſs diſſertation *De Camphoræ uſu interno ſecuriſſimo et præſtantiſſimo.* The ſubſtance of his obſervations is, that camphor ſeems to penetrate very quickly through the whole body, and increaſe perſpiration: that though given to the quantity of half a drachm, diſſolved in ſpirit of wine and duly diluted, it does not raiſe the pulſe or occaſion any heat, but rather cauſes a ſenſe of coolneſs about the præcordia: that on continuing its uſe for ſome time, the blood became ſenſibly more fluid, and the quantity of watery ſerum, which the habit before abounded with, was conſiderably diminiſhed: that in malignant fevers, and all diſorders, whether acute or chronical, proceeding from an acrid or putreſcent ſtate of the juices, camphor has excellent effects, correcting the acrimony, expelling the putrid morbific matter through the cutaneous pores, and preventing an inflammation or ſphacelus, where there is previouſly any diſpoſition thereto: that, by ſtrengthening the veſſels, it reſtrains hæmorrhagies happening in acute fevers, and promotes critical and periodical evacuations; that it expels even the venereal virus; that he has known examples of the lues being cured by camphor alone, a purgative only being premiſed; and that in recent infections he has found no medicine equal to it in efficacy. In inflammatory caſes, where there is a tendency to mortification, intenſe heat, thirſt, or where the ſkin is dry and parched, whether before or after a delirium has come on, ſmall doſes of camphor joined with nitre produced happy effects, almoſt immediately relieving the ſymptoms, occaſioning a calm ſleep and plentiful ſweat, without fatiguing the patient. He farther obſerves, that this ſimple, by its antiphlogiſtic quality, prevents the ill effects of the more irritating medicines; that cantharides and the acrid ſtimulating cathartics and diuretics, by the admixture of a ſmall proportion of camphor, become much more mild and ſafe in their operation.

The common doſe of camphor is from one grain to ten. It enters ſeveral officinal preparations, both for external and internal uſe; particularly the *Linimentum camphoræ*, *Linimentum ſaponis*, *Linimentum opiatum*, *Oleum camphoratum*, *Spt. vinoſus camphoratus*, *Miſtura camphorata*, *Tinctura opii camphorata*, &c.

In modern practice, it is externally employed chiefly to diminiſh inflammation, to diſcuſs tumors, to obviate gangrene, to ſtimulate in local palſy, and to allay rheumatic and paralytic pains. Internally, it is given in nervous affections with a view of exciting the vis vitæ, and alleviating ſpaſmodic complaints; with the ſame view to the vis vitæ, to obviate putreſcence, and to procure ſleep, it is uſed in fevers of the typhous kind. Some recommend it as ſingularly uſeful in caſes of ardor urinæ; and others find it efficacious in what are called nervous headachs.

CANCER, *Chelæ* [*Lond.*] *Chelæ*, *Lapilli vulgo* oculi *dicti* [*Ed.*]

Cancer Pagurus & *Aſtacus Lin.*

Crab claws are the black tips of the common crab (*Cancer Pagurus.*) After being broken down and well waſhed in boiling water, they are reduced to powder, and employed as an abſorbent. They conſiſt of a calcareous earth, and of courſe neutralize thoſe acids with which they come in contact in the primæ viæ. But beſides an earth, they contain alſo a glutinous animal matter, which gives them a tendency to concrete in the ſtomach and bowels. They enter ſome officinal preparations, as the *Pulvis chelarum cancrorum compoſitus*.

Crabs eyes, as they have been very improperly called, are concretions formed in the inſide of the thorax of the Craw-fiſh [*Cancer Aſtacus*] there is one on each ſide adhering to the ſhell of the animal: they are generally about the ſize of peas, or larger: of a ſpherical ſhape, but a little flatted on one ſide. They are of a white colour, but ſometimes with a reddiſh or blueiſh caſt, and internally of a laminated ſtructure. The greateſt part of them are the produce of Muſcovy, particularly of the river Don, where the dead crabs are laid upon the banks in heaps to putrefy, after which the ſtones are picked out.

Crabs claws and ſtones are employed as abſorbents, eſpecially where acidity is ſuperabundant in the ſtomach, as in heartburn: they are alſo very uſeful in diarrhœas proceeding from acidity, as they do not, like other abſorbent earths form, with the acids they meet with in the bowels, purgative ſalts.

Crabs ſtones are ſaid by moſt writers on the materia medica to be frequently counterfeited with tobacco-pipe clay, or compoſitions of chalk with mucilaginous ſubſtances. This piece of fraud, if really practiſed, may be very eaſily diſcovered; the counterfeits wanting the leafy texture which is obſerved on breaking the genuine; more readily imbibing water; adhering to the tongue; and diſſolving in vinegar, or the ſtronger acids diluted with water, either entirely, or not at all, or by piecemeal; while the true crabs ſtones, digeſted in theſe liquors, become ſoft and tranſparent, their original form remaining the ſame: this change is owing to the earthy part, on which depended their opacity and hardneſs, being diſſolved by the gentle action of the acid, which leaves the conglutinating matter entire.

CANELLA ALBA [*Lond. Ed*] *Cortex.*

Winterania Canella Lin.

Canella alba.

This bark is brought to us rolled up into long quills, thicker than cinnamon, and both outwardly and inwardly of a whitiſh colour, lightly inclining to yellow. It is the produce of a tall tree growing in great plenty in the low lands in Jamaica, and other Weſt India Iſlands. Infuſions of it in water are of a yellowiſh colour, and ſmell of the canella; but they are rather bitter than aromatic. Tinctures in rectified ſpirit have the warmth of the bark, but little of its ſmell. Proof-ſpirit diſſolves the aromatic as well as the bitter matter of the canella, and is therefore the beſt menſtruum.

The canella is the interior bark, freed from an outward thin rough one, and dried in the ſhade. The ſhops diſtinguiſh two ſorts of canella, differing from each other in the length and thickneſs of the quills: they are both the bark of the ſame tree, the thicker being taken from the trunk, and the thinner from the branches. This bark is a warm pungent aromatic, not of the moſt agreeable kind: nor are any of the preparations of it very grateful.

Canella alba is often employed where a warm ſtimulant to the ſtomach is neceſſary, and as a corrigent of other articles. It is now, however, little uſed in compoſition by the London college; the only official formula which it enters being the *pulvis aloeticus*: but with the Edinburgh college it is an ingredient in the *tinctura* *amara*, *vinum amarum*, *vinum rhei*, &c. It is uſeful as covering the taſte of ſome other articles.

CANABIS [*Brun.*] *Semen.*

Canabis ſativa Lin.
Hemp; the ſeed.

This plant, when freſh, has a rank narcotic ſmell: the water in which the ſtalks are ſoaked, in order to facilitate the ſeparation of the tough rind for mechanic uſes, is ſaid to be violently poiſonous, and to produce its effects almoſt as ſoon as drank. The ſeeds alſo have ſome ſmell of the herb; their taſte is unctuous and ſweetiſh; on expreſſion they yield a conſiderable quantity of inſipid oil; hence they are recommended (boiled in milk, or triturated with water into an emulſion) againſt coughs, heat of urine, and the like. They are alſo ſaid to be uſeful in incontinence of urine, and for reſtraining venereal appetites; but experience does not warrant their having any virtues of this kind. Although the ſeeds only have hitherto been principally in uſe, yet other parts of the plant ſeem to be more active, and may be conſidered as deſerving farther attention.

CANTHARIS [*Lond. Ed.*]

Meloe veſicatorius Lin.
The Spaniſh fly.

Theſe inſects are of a ſhining green colour, intermixed with more or leſs of a blue and a gold yellow. They are found in Spain, Italy, and France; the largeſt come from Italy, but the ſmaller kind from Spain are preferred.

Cantharides are extremely acrimonious; applied to the ſkin, they firſt inflame, and afterwards excoriate the part, raiſing a more perfect bliſter than any of the vegetable acrids, and occaſioning a more plentiful diſcharge of ſerum. Even the external application of cantharides is often followed by a ſtranguary, accompanied with thirſt and feveriſh heat; this inconvenience may be remedied by ſoft unctuous or mucilaginous liquors liberally drank. The ſtranguary is probably owing to the action of the abſorbed active parts on the neck of the bladder.

Cantharides taken internally, often occaſion a diſcharge of bloody urine, with exquiſite pain; if the doſe be conſiderable, they ſeem to inflame and exulcerate the whole inteſtinal canal; the ſtools become mucous and purulent; the breath fetid and cadaverous; intenſe pains are felt in the lower belly; the patient faints, grows giddy, raving mad, and dies. All theſe terrible conſequences have ſometimes happened from a few grains. Herman relates, that he has known a quarter of a grain inflame the kidneys, and occaſion bloody urine with violent pain. There are nevertheleſs caſes in which this ſtimulating fly, given in larger doſes, proves not only ſafe, but of ſingular efficacy for the cure of diſeaſes that yield little to medicines of a milder claſs. In phlegmatic habits, where the viſcera are overloaded, and the kidneys and ureters obſtructed with mucous matter, cantharides have excellent effects: here the abounding mucus defends the ſolids from the acrimony of the fly, till it is itſelf expelled; when the medicine ought to be diſcontinued. Groenvelt employed cantharides with great ſucceſs in dropſies, obſtinate ſuppreſſions of urine, and ulcerations of the bladder: giving very conſiderable doſes made into boluſes with camphor; and interpoſing large draughts of emulſions, milk, or other emollient liquids; by this means the exceſſive irritation which they would otherwiſe have occaſioned, was in a great meaſure prevented. The camphor did not perhaps contribute ſo much to this effect, as is generally imagined; ſince it has no ſenſible quality that promiſes any conſiderable abatement of the acrimony of cantharides: nitre would anſwer all that the camphor is ſuppoſed to do: this, with milk, or emollient mucilaginous liquors, drank in large quantity, are the beſt correctors. Cantharides, in very ſmall doſes, may be given with ſafety alſo in other caſes. Dr Mead obſerves, that the obſtinate gleets which frequently remain after the cure of venereal maladies, and which rarely yield to balſamic medicines, are effectually remedied by cantharides; and that no one remedy is more efficacious in leprous diſorders; in which laſt, proper purgatives are to be occaſionally taken during the uſe of the cantharides. The beſt and ſafeſt preparation of cantharides for theſe purpoſes, is a ſpirituous tincture; and indeed in all caſes the tincture is preferable, for internal uſe, to the fly in ſubſtance.

On the idea of the ſtimulus, accumulated about the genital organs, being propagated to parts in the neighbourhood, the internal uſe of that tincture has alſo been recommended in diabetes, leucorrhœa, amenorrhœa, &c. but from the dangerous effects ſometimes obſerved from ſeemingly inconſiderable doſes, cantharides are now almoſt entirely confined to external application.

They are ſometimes uſed as merely rubefacient, as in friction, with the tincture, on indolent ſwellings, or in form of weak plaſter: but moſt commonly in order to bliſter, chiefly with a view of relieving torpor, of determining the impetus of the blood from the part affected to the part of application, of diſcharging ſerum, and of relieving ſpaſms in certain internal parts.

The virtues of cantharides are extracted by rectified ſpirit of wine, proof ſpirit, and water; but do not ariſe in diſtillation. The watery and ſpirituous extracts bliſter as freely as the fly in ſubſtance: while the fly remaining after the ſeveral menſtrua have performed their office, is to the taſte inſipid, and does not in the leaſt bliſter, or inflame the ſkin; hence the *Unguentum infuſi cantharidum:* But beſides this, cantharides are the active baſis of ſeveral other officinal preparations, as the *Tinctura canthartdis*, *Emplaſtrum cantharidis*, *Unguentum cantharidis*, &c.

CAPPARIS [*Brun.*] *Radicis cortex et florum gemmæ.*

Capparis ſpinoſa Lin.

Caper buſh; the bark of the root and buds of the flowers.

This is a low prickly buſh, found wild in Italy and other countries; it is raiſed with us by ſowing the ſeeds upon old walls, where they take root between the bricks, and endure for many years.

The bark of the root is pretty thick, of an aſh colour, with ſeveral tranſverſe wrinkles on the ſurface; cut in ſlices and laid to dry, it rolls up into quills. This bark has a bitteriſh acrid taſte; it is reckoned aperient and diuretic; and recommended in ſeveral chronic diſorders, for opening obſtructions of the viſcera.

The buds, pickled with vinegar, are uſed at table. They are ſuppoſed to excite appetite, and promote digeſtion.

CARDAMINE [*Lond. Ed.*] *Flos.*

Cardamine pratenſis Lin.

Ladies Smock; the flower.

The cardamine is a perennial plant, which grows in meadow grounds, ſends forth purpliſh flowers in the ſpring; and in its ſenſible qualities reſembles the *naſturtium aquaticum.* Long ago it was employed as a diuretic; and of late it has been introduced in nervous diſeaſes, as epilepſy, hyſteria, choræa, aſthma, &c. A drachm or two of the powder is given twice or thrice a day. It has little ſenſible operation, except that it ſometimes promotes ſweat.

CARDAMOMUM MINUS [*Lond. Edin.*] *Semen.*

Amomum repens, Sonerati.

Leſſer cardamom.

Formerly a place was given in our pharmacopœias to different kinds of cardamom ſeeds, and particularly to the large as well as the ſmall; but the latter, tho' ſcarcely half the ſize of the former, are conſiderably ſtronger both in ſmell and taſte. Hence this ſort has long ſupplied the place of the other in the ſhops, and is the only one now directed.

Cardamom ſeeds are a very warm, grateful, pungent, aromatic, and are frequently employed as ſuch in practice: they are ſaid to have this advantage, that notwithſtanding their pungency, they do not, like thoſe of the pepper kind, immoderately heat or inflame the bowels. Both water and rectified ſpirit extract their virtues by infuſion, and elevate them in diſtillation; with this difference, that the tincture and diſtilled ſpirit are conſiderably more grateful than the infuſion and diſtilled water: the watery infuſion appears turbid and mucilaginous: the tincture made in ſpirit, limpid and tranſparent. The huſks of the ſeeds, which have very little ſmell or taſte, may be commodiouſly ſeparated, by committing the whole to the mortar, when the ſeed will readily pulveriſe, ſo as to be freed from the ſhell by the ſieve: this ſhould not be done till juſt before uſing them; for if kept without the huſks, they ſoon ſpoil by loſing their flavour. The officinal preparations of theſe ſeeds are ſpirituous tinctures, ſimple and compound; they are employed alſo as a ſpicy ingredient in ſeveral of the officinal compoſitions.

CARDUUS BENEDICTUS [*Lond. Ed.*] *Herba.*

Centaurea benedicta Lin.

Bleſſed thiſtle; the plant.

This is an annual plant, cultivated in gardens: it flowers in June and July, and perfects its ſeeds in the autumn. The herb ſhould be gathered when in flower, ſuddenly dried and kept in a very dry place to prevent its rotting or growing mouldy, which it is very apt to do. The leaves have a penetrating bitter taſte, not very ſtrong or very durable, accompanied with an ungrateful flavour, which they are in a great meaſure freed from by keeping. Water extracts, in a little time, even without heat, the lighter and more grateful parts of this plant; if the digeſtion be continued for ſome hours, the diſagreeable parts are taken up; a ſtrong decoction is very nauſeous and offenſive to the ſtomach. Rectified ſpirit gains a very pleaſant bitter taſte, which remains uninjured in the extract.

The virtues of this plant ſeem to be little known in the preſent practice. The nauſeous decoction is ſometimes uſed to provoke vomiting;

miting; and a ſtrong infuſion to promote the operation of other emetics. But this elegant bitter, when freed from the offenſive parts of the herb, may be advantageouſly applied to other purpoſes. We have frequently experienced excellent effects from a ſlight infuſion of carduus in loſs of appetite, where the ſtomach was injured by irregularities. A ſtronger infuſion made in cold or warm water, if drank freely, and the patient kept warm, occaſions a plentiful ſweat, and promotes the ſecretions in general.

The ſeeds of this plant are alſo conſiderably bitter, and have been ſometimes uſed with the ſame intention as the leaves.

CARICA [*Lond. Ed.*] *Fructus.*
Ficus Carica Lin.
The fig; the dried fruit.

The principal of theſe is as a ſoft, emollient ſweet; with this intention they enter the *Decoctum hordei compoſitum* and *Electuarium ſennæ.* They are alſo eſteemed by ſome as ſuppuratives, and hence have a place in maturating cataplaſms; and they are ſometimes applied by themſelves, as warm as they can eaſily be borne, to promote the ſuppuration of a phlegmon, particularly when ſo ſituated that other cataplaſms cannot eaſily be kept applied.

CARLINA [*Gen.*] *Radix.*
Carlina acaulis Lin.
Carline thiſtle; the root.

This is a very prickly ſort of thiſtle, growing ſpontaneouſly in the ſouthern parts of France, Spain, Italy, and the mountains of Swiſſerland; from whence the dried roots are brought to us. This root is about an inch thick, externally of a pale ruſty brown colour, corroded as it were on the ſurface, and perforated with numerous ſmall holes, appearing when cut as if worm-eaten. It has a ſtrong ſmell, and a ſubacrid, bitteriſh, weakly aromatic taſte. Carlina is conſidered as a warm diaphoretic and alexipharmic; and has been for ſome time greatly eſteemed by foreign phyſicians, but never came much into uſe among us: the preſent practice has entirely rejected it; nor is it often to be met with in the ſhops. Hoffman relates that he has obſerved a decoction of it in broth to occaſion vomiting.

CARPOBALSAMUM [*Brun.*] *Fructus.*
Amyris Gileadenſis Lin.
Carpobalſam; the fruit.

This is the fruit of the tree that yields the opobalſam or balſam of Gilead. It is about the ſize of a pea, of a whitiſh colour, incloſed in a dark brown wrinkled bark. This fruit, when in perfection, has a pleaſant warm glowing taſte, and a fragrant ſmell, reſembling that of the opobalſamnm itſelf. It is very rarely found in the ſhops; and ſuch as we meet with, has almoſt loſt all its ſmell and taſte. It had formerly a place in the mithridate and theriaca formulæ, now baniſhed from our pharmacopœias; but even then the college permitted cubebs to be employed as a ſubſtitute for the carpobalſamum, which could ſeldom be procured; and it is probably on this account that it has now no place in our liſts.

CARTHAMUS [*Brun.*] *Semen.*
Carthamus tinctorius Lin.
Baſtard ſaffron; the ſeeds.

The baſtard ſaffron is a kind

of thiſtle, with only a few prickles about the edges of the leaves. It is cultivated in large quantity in ſome places of Germany; from whence the other parts of Europe are ſupplied with the flowers as a colouring drug, and the ſeeds as a medicinal one. The flowers, well cured, are not eaſily diſtinguiſhable by the eye from ſaffron; but their want of ſmell readily diſcovers them. The ſeeds are about a quarter of an inch long, white, ſmooth, of an oblong roundiſh ſhape, yet with four ſenſible corners, and are ſo heavy as to ſink in water; of a viſcid ſweetiſh taſte, which in a little time becomes acrid and nauſeous. They have been celebrated as a cathartic: they operate very ſlowly, and for the moſt part diſorder the bowels, eſpecially when given in ſubſtance; triturated with aromatic diſtilled waters, they form an emulſion leſs offenſive, yet inferior in efficacy to more common purgatives.

CARUON [*Lond.*]
CARVI [*Ed.*] *Semen.*
Carum carvi Lin.
Caraway; the ſeeds.

Carraway is an umbelliferous plant, cultivated with us in gardens both for culinary and medicinal uſe. The ſeeds have an aromatic ſmell, and a warm pungent taſte. They are frequently employed, as a ſtomachic and carminative, in flatulent colics, and the like.

They were formerly the baſis of ſeveral officinal preparations, and entered many compoſitions by way of a corrigent. But although they be now leſs frequently employed than before, yet a place is ſtill given to their eſſential oil and diſtilled ſpirit; and they enter the compound ſpirit of juniper, the tincture of ſenna, and ſome other compoſitions.

CARYOPHYLLUS AROMATICUS [*Lond.*] *pericarpium immaturum et ejus oleum eſſentiale.*
CARYOPHYLLA AROMATICA [*Edin.*] *Fructus & oleum ejus eſſentiale.*
Caryophyllus aromaticus Lin.
Cloves.

Cloves are the fruit of a tree growing in the Eaſt-Indies. In ſhape, they ſomewhat reſemble a ſhort thick nail.

Cloves have a very ſtrong agreeable aromatic ſmell, and a bitteriſh pungent taſte, almoſt burning the mouth and fauces. The Dutch, from whom we have this ſpice, frequently mix it with cloves which have been robbed of their oil: Theſe, though in time they regain from the others a conſiderable ſhare both of taſte and ſmell, are eaſily diſtinguiſhable by their weaker flavour and lighter colour. Cloves, conſidered as medicines, are very hot ſtimulating aromatics, and poſſeſs in an eminent degree the general virtues of ſubſtances of this claſs. An extract made from them with rectified ſpirit is exceſſively hot and pungent: the diſtilled oil has no great pungency; an extract made with water is nauſeous and ſomewhat ſtyptic. The only officinal preparation of them is the eſſential oil. Both the cloves themſelves and their oils are ingredients in many officinal compoſitions.

CARYOPHYLLUM RUBRUM [*Lond.*] *Flos.*
CARYOPHYLLA RUBRA [*Edin.*] *flores.*
Dianthus Caryophyllus Lin.
Clove July-flowers.

A great variety of theſe flowers

are met with in our gardens: thoſe uſed in medicine ought to be of a deep crimſon colour, and a pleaſant aromatic ſmell, ſomewhat like that of cloves: many ſorts have ſcarcely any ſmell at all.

They are ſaid to be cardiac and alexipharmic. Simon Pauli relates, that he has cured many malignant fevers by the uſe of a decoction of them; which he ſays powerfully promotes ſweat and urine, without greatly irritating nature, and alſo raiſes the ſpirits and quenches thirſt. At preſent the flowers are chiefly valued for their pleaſant flavour, which is entirely loſt even by light coction; hence the college direct the ſyrup, which is the only officinal preparation of them, to be made by infuſion.

CARYOPHYLLATA [*Brun.*] *Radix.*

Geum urbanum Lin.

Avens; the root.

Avens is a rough plant found wild in woods and hedges. The root has a warm, bitteriſh, aſtringent taſte, and a pleaſant ſmell, ſomewhat of the clove kind, eſpecially in the ſpring, and when produced in dry warm ſoils. It has been employed as a ſtomachic, and for ſtrengthening the tone of the viſcera in general: it is ſtill in ſome eſteem in foreign countries, though not taken notice of among us. It yields on diſtillation an elegant odoriferous eſſential oil, which concretes into a flaky form.

Beſides the geum rivale, another ſpecies of the ſame genus has a place in ſome pharmacopœias, under the title of *Caryophyllata aquatica.* The root of this ſpecies, which is larger than the other, is ſaid to be employed by the Indians in South America for the cure of intermittents, and to be equally ſucceſsful with the Peruvian bark. Dr Withering mentions, that the powder of the root is uſed for this purpoſe by the Canadians.

CASCARILLA [*Lond. Ed.*] *Cortex.*

Croton Eleutheria Lin.

Caſcarilla; the bark.

This bark is imported into Europe from the Bahama iſlands, and particularly from one of them of the name of Eleuthera: from which circumſtance it was long known by the title of Eleutheria. The caſcarilla is in general brought to us either in curled pieces, or rolled up into ſhort quills, about an inch in width, ſomewhat reſembling in appearance the Peruvian bark. It is covered on the outſide with a rough whitiſh matter; and in the inſide it is of a browniſh caſt. When broken, it exhibits a ſmooth cloſe dark brown ſurface.

This bark, when freed from the outer whitiſh coat, which is inſipid and inodorous, has a light agreeable ſmell, and a moderately bitter taſte, accompanied with a conſiderable aromatic warmth. It is eaſily inflammable, and yields when burning a very fragrant ſmell reſembling that of muſk; a property which diſtinguiſhes the caſcarilla from all other barks. It was introduced into Europe about the end of the laſt century, and ſeems firſt to have been uſed in Germany, where it is ſtill in very high eſteem. There it is frequently employed againſt common intermittent fevers, in preference to the Peruvian bark, as being leſs ſubject to produce ſome inconveniencies, which the latter on account of its great aſtrigency is apt to occaſion. It is alſo ſaid to have been employed with great ſucceſs in ſome very dangerous epidemic fevers attended with petechiæ: and it is frequently employed with advantage in flatulent colics, internal hæmorrhagies, dyſenteries, diarrhœas, and ſimilar diſorders. In Britain it has been uſed by ſome practitioners, particularly by the late Dr Keir of London, who thinks that it is by no means ſo generally employed as it deſerves to be.

Its virtues are partially extracted by water, and totally by rectified ſpirit; but it is moſt effectual when given in ſubſtance.

CASSIA FISTULARIS

[*Lond. Ed.*] *Fructus.*

Caſſia fiſtula Lin.

Caſſia; the fruit.

This is the fruit of an oriental tree, and is a cylindrical pod, about an inch in diameter, and a foot or more long: the outſide of it is a hard brown bark: the inſide is divided by thin tranſverſe woody plates, covered with a ſoft black pulp of a ſweetiſh taſte, with ſome degree of acrimony. There are two ſorts of this drug in the ſhops; one brought from the Eaſt Indies, the other from the Weſt: the canes or pods of the latter are generally large, rough, thick-rinded, and the pulp nauſeous; thoſe of the former are leſs, ſmoother, the pulp blacker, and of a ſweeter taſte; this ſort is preferred to the other. Such pods ſhould be choſen as are weighty, new, and do not make a rattling noiſe (from the ſeeds being looſe within them) when ſhaken. The pulp ſhould be of a bright ſhining black colour, and of a ſweet taſte, not harſh, which happens from the fruit being gathered before it has grown fully ripe; nor ſouriſh, which it is apt to turn upon keeping: it ſhould neither be very dry nor very moiſt, nor at all mouldy; which, from its being kept in damp cellars, or moiſtened in order to increaſe its weight, it is very ſubject to be. Greateſt part of the pulp diſſolves both in water and in rectified ſpirit; and may be extracted from the cane by either. The ſhops employ water, boiling the bruiſed pod therein, and afterwards evaporating the ſolution to a due conſiſtence.

The pulp of caſſia is a gentle laxative, and is frequently given, in a doſe of ſome drachms, in coſtive habits. Some direct a doſe of two ounces or more as a cathartic, in inflammatory caſes, where the more acrid purgatives have no place: but in theſe large quantities it generally nauſeates the ſtomach, produces flatulencies, and ſometimes gripings, eſpecially if the caſſia be not of a very good kind: theſe effects may be prevented by the addition of aromatics, and exhibiting it in a liquid form. Geoffroy ſays, it does excellent ſervice in the painful tenſion of the belly, which ſometimes follows the imprudent uſe of antimonials, and that it may be advantageouſly acuated with the more acrid purgatives, or antimonial emetics, or employed to abate their force. Valliſnieri relates, that the purgative virtue of this medicine is remarkably promoted by manna: that a mixture of four drachms of caſſia and two of manna, purges as much as twelve drachms of caſſia or thirty-two of manna alone. Senertus obſerves, that the urine is apt to be turned of a green colour by the uſe of caſſia: and ſometimes, where a large quantity has been taken, blackiſh. This drug gives name to an officinal electuary, and is an ingredient alſo in another.

CASSIA LIGNEA [*Ed.*]

Cortex, flores nondum explicati.

Laurus Caſſia Lin.

Caſſia; the bark and buds.

This bark, which is imported from different parts of the Eaſt Indies and from China, has a very exact reſemblance to the cinnamon, and is obtained from a ſpecies of the ſame genus of tree. It is diſtinguiſhable from the cinnamon, by being of a thicker and coarſer appearance, and by its breaking ſhort and ſmooth, while the cinnamon breaks fibrous and ſhivery.

This bark reſembles cinnamon ſtill more exactly in its aromatic flavour than in its external appearance, and ſeems only to differ from it in being ſomewhat weaker, in abounding more with a viſcous mucilaginous matter, and in being leſs aſtringent. Accordingly, it has not only a place in the Edinburgh pharmacopœia, but is alſo the baſis of a diſtilled water. It is perhaps ſurpriſing that the London college have not given it a place in their liſt. But although it does not enter their pharmacopœia, yet we may venture to aſſert that it will not be neglected by the apothecaries. At preſent it is very common with many of them to ſubſtitute the caſſia in every caſe for the more expenſive article cinnamon: and indeed almoſt the whole of what is at preſent ſold under the title either of ſimple or ſpirituous cinnamon-water, is entirely prepared from caſſia, and not even entirely from the bark, but from a mixture of the bark and buds.

CASTOREUM [*Lond. Ed.*]

Caſtor fiber Lin.

Caſtor.

Caſtor appears to be a peculiar fatty depoſition, found in cells or bags ſituated near the rectum in the beaver, a four-footed amphibious animal frequent in ſeveral parts of Europe and America. The beſt comes from Ruſſia: this is in large round hard pods, which appear, when cut, full of a brittle red liver-coloured ſubſtance, interſperſed with membranes and fibres exquiſitely interwoven. An inferior ſort is brought from Dantzick; this is generally fat and moiſt. The worſt of all is that of New England, which is in longiſh thin pods. But of late ſome, apparently not inferior to the Ruſſian caſtor, has been brought from Hudſon's bay.

Caſtor has a ſtrong diſagreeable ſmell, and an acrid, biting, bitteriſh, nauſeous taſte. Water extracts the nauſeous part, with little of the finer bitter; rectified ſpirit extracts this laſt, without much of the nauſeous: proof-ſpirit both: water elevates the whole of its flavour in diſtillation: rectified ſpirit brings over nothing.

Caſtor is conſidered as one of the capital nervine and antihyſteric medicines: ſome celebrated practitioners have nevertheleſs doubted its virtues; Newmann and Stahl declare it inſignificant. Experience, however, has ſhewn that the virtues of caſtor are conſiderable, though they are certainly far leſs than they have been generally ſuppoſed to be. Its officinal preparations are a ſimple and compound ſpirituous tincture. It is an ingredient in ſome other compoſitions, as the compound powder of myrrh.

CASUMUNAR [*Brun.*]

This is a tuberous root, an inch or more thick, marked on the ſurface with circles or joints like galangal, of a browniſh or aſh colour on the outſide, and a duſky yellowiſh within; it is brought from the Eaſt Indies, cut into tranſverſe ſlices: what kind of plant it produces is not known.

Caſſumunar has a warm bitteriſh taſte, and an aromatic ſmell, ſomewhat reſembling that of ginger. It has been celebrated in hyſteric caſes, epilepſies, palſies, loſs of memory, and other diſorders; the preſent practice ſometimes employs it as a ſtomachic and a carminative, but it is not ſo much uſed or known as it deſerves to be.

CATECHU, *Vulgo, Terra Japonica* [*Lond. Ed.*]

Mimoſa Catechu Lin.

Catechu; the extract.

This vegetable extract, which has long had, but very improperly, the name of *Terra Japonica,* is the product of a plant growing in the Eaſt Indies. A particular account of the vegetables from whence it is obtained, as well as the method of preparation, was ſome time ago publiſhed by Dr Keir in the London Medical Obſervations. The only earth which it contains, conſiſts entirely of adhering impurities from the furnaces or kilns in which it is prepared. Hence it is with great propriety, that in ſome of the beſt foreign pharmacopœias, a *ſuccus japonicus depuratus* is introduced, although not adopted either by the London or Edinburgh colleges.

The extract of catechu in its pureſt ſtate is a dry and pulveriſable ſubſtance. Outwardly it is of a reddiſh colour, internally of a ſhining dark brown, with a ſlight caſt of red. It is a mild, but at the ſame time a powerful aſtringent. It is more agreeable in taſte than moſt other ſubſtances of that claſs. It leaves in the mouth a kind of ſweetneſs and mucilaginous feel. It may be uſefully employed for moſt purpoſes where an aſtringent is indicated, provided the moſt powerful be not requiſite. But it is particularly uſeful in alvine fluxes; and where theſe require the uſe of aſtringents, we are acquainted with no one equally beneficial. Beſides this it is employed alſo in uterine profluvia, in laxity and debility of the viſcera in general, in catarrhal affections, and various other diſeaſes where aſtringents are indicated. It is often ſuffered to diſſolve leiſurely in the mouth, as a topical aſtringent for laxities and exulcerations of the gums, for aphthous ulcers in the mouth, and ſimilar affections: And it is in ſome other caſes applied externally both under the form of ſolution and of ointment.

Catechu diſſolves almoſt entirely in water excepting its impurities. But theſe are in general ſo conſiderable in point of quantity, that Dr Lewis computes them to conſtitute one eighth part of the maſs. Of the pure matter, rectified ſpirit diſſolves about ſeven eighths into a deep red liquor; the part which it leaves undiſſolved is an almoſt inſipid mucilaginous ſubſtance.

Catechu is the baſis of ſeveral fixed formulæ in our pharmacopœias, particularly of a tincture and an electuary: But the beſt form under which it can be exhibited is that of ſimple infuſion in warm water, with a proportion of cinnamon or caſſia; for by this means it is at once freed from its impurities, and improved by the addition of the aromatic.

CENTAURIUM MAJOR *Radix.*

Centaurea Centaurium Lin.

Greater çentaury, the root.

The greater centaury is a large plant cultivated in gardens. The root has a rough ſomewhat acrid taſte, and abounds with a red viſcid juice; its rough taſte has gained it ſome eſteem as an aſtringent; its acrimony as an aperient; and its glutinous quality as a vulnerary: the preſent practice takes little notice of it with any intention.

CENTAURIUM MINUS [*Lond. Ed.*] *Cacumen.*

Gentiana Centaurium Lin.

Leſſer centaury; the top.

This grows wild in many parts of England, in dry paſture grounds, and among corn. The tops are an uſeful aperient bitter.

CEPA [*Suec.*] *Radix.*

Allium cepa Lin.

Onion; the root.

Theſe roots are conſidered rather as articles of food than of medicine: they are ſuppoſed to afford little or no nouriſhment, and when eaten liberally produce flatulencies, occaſion thirſt, head-achs, and turbulent dreams: in cold phlegmatic habits, where a viſcid mucus abounds, they doubtleſs have their uſe; as by their ſtimulating quality they tend to excite appetite and promote ſweat: by ſome they are ſtrongly recommended in ſuppreſſion of urine, and in dropſies. The chief medicinal uſe of onions in the preſent practice is in external applications, as a cataplaſm for ſuppurating tumours, &c.

CERA FLAVA [*Lond. Ed.*]

Yellow bees wax.

This is a ſolid concrete obtained from the honeycombs after the honey is got out by heating and preſſing them between iron plates. The beſt ſort is of a lively yellow colour, and an agreeable ſmell, ſomewhat like that of honey; when new, it is toughiſh, yet eaſy to break; by age it becomes harder and more brittle, it loſes its fine colour, and in great meaſure its ſmell.

CERA ALBA [*Lond. Ed.*]

White wax.

White wax is prepared from the yellow, by reducing it into thin flakes, and expoſing it for a length of time to the action of the ſun, air, and water; when ſufficiently bleached, it is melted and caſt into cakes. The beſt ſort is of a clear and almoſt tranſparent whiteneſs, and of a light agreeable ſmell, like that of the yellow wax, but much weaker.

The chief medical uſe of wax is in cerates, plaſters, unguents, &c. as an emollient for promoting ſuppuration, &c. It readily unites with oils and animal fats, but not with watery or ſpirituous liquors. It is given alſo internally in diarrhœas and dyſenteries, when mixed with oily ſubſtances.

CERASUS [*Suec.*] *Folia, fructus, gummi.*

Prunus Ceraſus Lin.

The cherry; the leaves, fruit, and gum.

Of this fruit a conſiderable number of varieties are cultivated in our gardens: particularly the ſweet cherry with a black juice; the pleaſantly-ſouriſh cherry, with a colourleſs juice; and the very ſame cherry with a blood-red juice; commonly called black, red, and morello cherries.

Theſe fruits, eſpecially the acid ſorts, are very uſeful and agreeable coolers, and quenchers of thirſt;

and are ſometimes directed with this intention, in bilious, or febrile diſtempers. Boerhaave was extremely fond of theſe and the other fruits, called *horæi*, as aperients in ſome chronic caſes; and declares himſelf perſuaded, that there is no kind of obſtruction of the viſcera capable of being removed by medicine, which will not yield to the continued uſe of theſe. They are rather, however, uſed as an article of diet or luxury, than in the way of medicine; and accordingly have no place in the London or Edinburgh pharmacopœias.

The gum of the cherry is a pretty pure vegetable mucilage, nearly the ſame with gum arabic.

CEREFOLIUM [*Suec.*] *Herba.*

Sandix Cerefolium Lin.

Chervil; the plant.

This is a low annual plant commonly cultivated in gardens for culinary purpoſes. It is grateful both to the palate and ſtomach, gently aperient and diuretic. Geoffroy aſſures us, that he has found it from experience to be of excellent ſervice in dropſies; that, in this diſorder, it promotes the diſcharge of urine when ſuppreſſed; renders it clear when feculent and turbid; and when high and fiery, of a paler colour; that it acts mildly without irritation, and tends rather to allay than to excite inflammation. He goes ſo far as to ſay, that dropſies which do not yield to this medicine, are ſcarcely capable of being cured by any other. He directs the juice to be given in the doſe of three or four ounces every fourth hour, and continued for ſome time, either alone, or in conjunction with nitre and ſyrup of the five opening roots.

CERVUS CORNU [*Lond.*]

Stag's or Hart's horn.

Many extraordinary virtues have been attributed to theſe horns, and to all the parts of the animal in general: but experience gives no countenance to them; nor do they ſeem to have any other foundation than the great timidity of the hart, the annual renewal of his horns, and an opinion of his extraordinary longevity. From theſe circumſtances it was inferred that all the parts of him muſt be proper for intimidating the enraged Archæus, renewing health and ſtrength, and prolonging life. They are of the ſame nature with bones; and their products by heat are thoſe of the ſolid animal ſubſtances in general. As ſuch they were at one time ſo much employed for yielding the volatile alkali, that they even gave a name to that article.

The horns boiled in water, give out an emollient nutritious jelly. Burnt to whiteneſs, they yield an earth, which is employed in the officinal white decoction, or, as it is now more properly ſtyled, the *Decoctum cornu cervi.*

CHALYBS, See Ferrum.

CHAMÆDRYS [*Suec.*] *Herba.*

Teucrium chamædrys Lin.

Germander; the herb.

This is a low ſhrubby plant, cultivated in gardens. The leaves, tops, and ſeeds, have a bitter taſte, with ſome degree of aſtringency and aromatic flavour. They are recommended as ſudorific, diuretic, and emmenagogue, and for ſtrengthening the ſtomach and viſcera in general. With ſome they have been in great eſteem in intermittent fevers, and alſo in ſcrophulous and other chronic diſorders; but at the preſent they are very little uſed, and have now no place either in the London or Edinburgh pharmacopœias.

CHAMÆMELUM [*Lond.*] *Flos ſimplex.* [*Ed.*] *Herba et Flores.*
Anthemis nobilis Lin.
Chamomile; the herb and flowers.

Theſe have a ſtrong not ungrateful aromatic ſmell, and a very bitter nauſeous taſte. They are accounted carminative, aperient, emollient, and in ſome degree anodyne; and ſtand recommended in flatulent colics, for promoting the uterine purgations, in ſpaſmodic pains, and the pains of women in child bed: ſometimes they have been employed in intermittent fevers, and in nephritis. Theſe flowers are frequently alſo uſed externally in diſcutient and antiſeptic fomentations, and in emollient glyſters: they enter the *Decoctum pro enemate* and *Decoctum pro fomento* of the London, and the *Decoctum chamæmeli* of the Edinburgh pharmacopœia. An eſſential oil was formerly directed to be prepared from them, but it is now omitted. A ſimple watery infuſion of them taken in a tepid ſtate is at preſent frequently employed to promote the operation of emetics.

CAMÆPITHYS [*Suec.*] *Herba.*
Teucrium Chamæpithys Lin.
Ground pine, the herb.

This is a low hairy plant, clammy to the touch, of a ſtrong aromatic reſinous ſmell, and a bitter roughiſh taſte. It is recommended as an aperient and vulnerary, and alſo in gouty and rheumatic pains.

CHELIDONIUM MAJUS [*Brun.*] *Herba, Radix.*
Chelidonium majus Lin.
Celandine; the leaves and root.

This plant grows upon old walls, among rubbiſh, and in waſte ſhady places. The herb is of a blueiſh green colour; the root of a deep red; both contain a yellowiſh gold-coloured juice; their ſmell is diſagreeable; the taſte ſomewhat bitteriſh, very acrid, biting and burning the mouth; the root is the moſt acrid. The juice of celandine has long been celebrated in diſorders of the eyes: but it is too ſharp, unleſs well diluted, to be applied with ſafety to that tender organ. It has been ſometimes uſed, and it is ſaid with good ſucceſs, for extirpating warts, cleanſing old ulcers, and in cataplaſms for the herpes miliaris. This acrimonious plant is rarely given internally; the virtues attributed to it are thoſe of a ſtimulating aperient, diuretic, and ſudorific: it is particularly recommended in jaundices where there are no ſymptoms of inflammation, and in dropſies. Some ſuppoſe the root to have been Helmont's ſpecific in the hydrops aſcites. Half a drachm or a drachm of the dry root is directed for a doſe; or an infuſion of an ounce of the freſh root in wine.

CHELIDONIUM MINUS [*Brun.*] *Radix.*
Ranunculus Ficaria Lin.
Pilewort; the root.

This is a very ſmall plant, found in moiſt meadows, and by hedgeſides: the roots conſiſt of ſlender fibres, with ſome little tubercles among them, which are ſuppoſed to reſemble the hæmorrhoids; hence it has been concluded, that this root muſt needs be of wonderful efficacy for the cure of that diſeaſe: to the taſte, it is little other than mucilaginous; and although ſtill retained in ſeveral of the foreign pharmacopœias, it is never uſed in this country.

CHINA [*Suec.*] *Radix.*
Smilax China Lin.
China root.

This root is brought from the Eaſt Indies. But beſides the oriental china root, there is alſo a root under the ſame name brought from the Weſt Indies, obtained from a different ſpecies of the ſame genus. They are both longiſh, full of joints, of a pale reddiſh colour, of no ſmell, and very little taſte: the oriental, which is the moſt eſteemed, is conſiderably harder, and paler coloured than the other. Such ſhould be choſen as is freſh, cloſe, heavy, and upon being chewed appears full of a fat unctuous juice. China root was either unknown or diſregarded by the antient phyſicians. It was firſt introduced into Europe about the year 1535, with the character of being a ſpecific againſt venereal and cutaneous diſorders; and as ſuch was uſed for ſome time, but at length gave place to medicines of a more powerful kind. It is generally ſuppoſed to promote inſenſible perſpiration and the urinary diſcharge.

CICHOREUM [*Suec.*] *Radix, herba.*
Cichoreum Intybus Lin.
Wild ſuccory; the roots and herb.

The root has a moderately bitter taſte, with ſome degree of roughneſs; the leaves are ſomewhat leſs bitter: the roots, ſtalks, and leaves yield, on being wounded, a milky ſaponaceous juice. By culture this plant loſes its green colour and its bitterneſs, and in this ſtate is employed in ſalads; the darker coloured and more deeply jagged the leaves, the bitterer is their taſte. Wild ſuccory acts without much irritation, tending to cool the body, and at the ſame time corroborate the tone of the inteſtines. The juice taken in large quantities, ſo as to keep up a gentle diarrhœa, and continued for ſome weeks, has been found to produce excellent effects in cutaneous affections and other chronical diſeaſes.

CICUTA [*Lond.*] *Herba, flos, ſemen.* [*Edin.*] *Folia, ſemen.*
Conium maculatum Lin.
Hemlock; the leaves, flower, and ſeed.

This is a large umbelliferous plant, common about the ſides of fields, under hedges, and in moiſt ſhady places: the leaves are winged, divided into a great number of ſmall fern-like ſections, of a dark or blackiſh green colour, and appearing as it were rough: the ſtalk is hollow (as is likewiſe great part of the root after the ſtalk has ariſen), and ſpotted with ſeveral blackiſh, red, or purple ſpots. Hemlock is ſometimes applied externally in the form of decoction, infuſion, or poultice, as a diſcutient. Theſe are apt to excoriate, and their vapour is ſometimes particularly diſagreeable and hurtful. The ſtalks are inſignificant, and the roots very virulent. With regard to its virtue, when taken internally, it has been generally accounted poiſonous; which it doubtleſs is, in a high degree, when uſed in any conſiderable quantity. But Dr Stoerk has found, that in certain ſmall doſes, it may be taken with great ſafety; and that, without at all diſordering the conſtitution, or even producing any ſenſible operation, it ſometimes proves a powerful reſolvent in many obſtinate diſorders. In ſcirrhus, the internal and external uſe of hemlock has been found uſeful, but then mercury has been generally uſed at the ſame time. In open cancer, it often abates the pains, and is free from the conſtipating effects of opium. It is likewiſe uſed in ſcrophulous tumours and ulcers, and other ill conditioned ſores. It is alſo recommended by ſome in chincough, and various other diſeaſes. Its common, and perhaps beſt form, is that of the powdered leaves, in the doſe, at firſt, of two or three grains a-day, which in ſome caſes has been gradually increaſed to upwards of two ounces a-day, without producing giddineſs. Both the London and Edinburgh colleges have given a place to the *Succus ſpiſſatus cicutæ.*

CINARA [*Lond Ed.*] *Folium.*
Cynara Scolymus Lin.
Artichoke; the leaves.

The artichoke is a large rough plant, with greyiſh leaves, which is well known in our gardens, being very commonly cultivated for culinary purpoſes. The leaves are bitter; and on being preſſed give out their bitterneſs along with their juice. This expreſſed juice is given in dropſies, and in ſome inſtances has proved ſuccesſful after other medicines have failed. For this purpoſe, the expreſſed juice paſſed only through a coarſe ſtrainer, is mixed with an equal quantity of white wine, and of this mixture two or three table ſpoonfuls are taken every morning and evening. It operates by promoting diureſis. For this purpoſe, an infuſion of the leaf is alſo uſed; and both the leaves and ſtalks enter into many of the diuretic decoctions uſed by the country people.

CINNABARIS NATIVA [*Brun.*]
Native cinnabar.

This is a ponderous mineral of a red colour, found in Spain, Hungary, and ſeveral other parts of the world. The fineſt ſort is in pretty large maſſes, both externally and internally of an elegant deep red colour, which is much improved by grinding the maſs into fine powder; There is another ſort, of a good colour, in roundiſh drops, ſmooth without, and ſtriated within.

This mineral is generally compoſed of 6 parts of mercury and one of ſulphur; the finer the colour of the cinnabar, the more mercury it is found to hold. Native cinnabar has been by many preferred as a medicine to that made by art: The native has ſometimes been obſerved to occaſion nauſea, vomiting, and anxiety: theſe probably proceeded from an admixture of ſome arſenical particles which it could not be freed from by repeated ablution. When pure, it has no quality or medical virtue diſtinct from thoſe of the artificial cinnabar, now ſtyled, *Hydrargyrus ſulphuratus ruber,* and afterwards to be mentioned among the mercurial preparations.

CINCHONA [*Lond.*] *Cortex.*
CORTEX PERUVIANUS [*Edin.*]
Cinchona officinalis Lin.
Peruvian bark.

The tree which furniſhes this bark is deſcribed as being in general about fifteen feet high and ſix inches thick. It ſomewhat reſembles our cherry-tree, grows promiſcuouſly in foreſts, particularly

larly in the hilly parts of Quito in Peru, and is ſpontaneouſly propagated from its ſeeds.

The bark has ſome odour, to moſt people not unpleaſant, and very perceptible in the diſtilled water, in which floating globules, like eſſential oil, have been obſerved. Its taſte is bitter and aſtringent, accompanied with a degree of pungency, and leaving a conſiderably laſting impreſſion on the tongue.

Two ſpecies are mentioned, viz. the coloured and the white. The coloured includes the pale, the red, the yellow, and the knotty; their barks being coloured. The white includes four varieties, their barks being of a whitiſh colour.

The proper red bark and one of the white kind have been found in the province of Santa Fé.

A ſpecies of cinchona has alſo been diſcovered in the Weſt India iſlands, particularly in Jamaica: It is accurately deſcribed by Dr Wright, under the title of *Cinchona Jamaicenſis*, in a paper publiſhed in the Philoſophical Tranſactions. In Jamaica it is called the ſea-ſide beech, and grows from twenty to forty feet high. The white, furrowed, thick outer bark is not uſed; the dark-brown inner bark has the common flavour, with a mixed kind of taſte, at firſt of horſe-radiſh and ginger, becoming at laſt bitter and aſtringent. It ſeems to give out more extractive matter than the cinchona officinalis. Some of it was imported from St Lucia, in conſequence of its having been uſed with advantage in the army and navy during the laſt war. The freſh bark is found to be conſiderably emetic and cathartic, which properties it is ſaid to loſe on drying.

The pale and the red are chiefly in uſe in Britain. The pale is brought to us in pieces of different ſizes, either flat or quilled, and the powder is rather of a lighter colour than that of cinnamon. The red is generally in much larger, thicker, flatter pieces, but ſometimes alſo in the form of quills, and its powder is reddiſh like that of Armenian bole. It is much more reſinous, and poſſeſſes the ſenſible qualities of the cinchona in a much higher degree than the other ſorts; and the more nearly the other kinds reſemble the red bark, the better they are now conſidered. The red bark is heavy, firm, ſound, and dry; friable between the teeth; does not ſeparate into fibres; and breaks, not ſhivery, but ſhort, cloſe, and ſmooth. It has three layers: the outer is thin, rugged, of a reddiſh brown colour, but frequently covered with moſſy matter: the middle is thicker, more compact, darker-coloured, very reſinous, brittle, and yields firſt to the peſtle: the inmoſt is more woody, fibrous, and of a brighter red.

The Peruvian bark yields its virtues both to cold and boiling water; but the decoction is thicker, gives out its taſte more readily, and forms an ink with a chalybeate more ſuddenly than the freſh cold infuſion. This infuſion, however, contains at leaſt as much extractive matter, but more in a ſtate of ſolution; and its colour on ſtanding ſome time with the chalybeate, becomes darker; while that of the decoction becomes more faint. When infuſions are of a certain age, the addition of a chalybeate renders them green; and when this is the caſe, they are found to be in a ſtate of fermentation, and ſpoilt. Mild or cauſtic alkalies, or lime, precipitate the extractive matter, which, in the caſe of the cauſtic alkali, is rediſſolved by a farther addition of the alkali. Lime water precipitates leſs from a freſh infuſion than from a freſh decoction; and in the precipitate of this laſt ſome mild earth is perceptible. The infuſion is reduced by age to the ſame ſtate with the freſh decoction, and then they depoſite nearly an equal quantity of mild earth and extractive matter; ſo that lime-water, as well as a chalybeate, may be uſed as a teſt of the relative ſtrength and periſhable nature of the different preparations, and of different barks. Accordingly cold infuſions are found by experiments to be leſs periſhable than decoctions; infuſions and decoctions of the red bark, than thoſe of the pale; thoſe of the red bark however, are found by length of time to ſeparate more mild earth with the lime water, and more extractive matter. Lime-water, as precipitating the extractive matter, appears an equally improper and diſagreeable menſtruum.

Water is found to ſuſpend the reſin by means of much leſs gum than has been ſuppoſed. Rectified ſpirit of wine extracts a bitterneſs, but no aſtringency, from a reſiduum of twenty affuſions of cold water; and water extracts aſtringency, but no bitterneſs, from the reſiduum of as many affuſions of rectified ſpirit. The reſidua in both are inſipid.

From many ingenious experiments made on the Peruvian bark by Dr Irving, which are now publiſhed in a diſſertation that gained the prize-medal given by the Harveian ſociety of Edinburgh for 1783, the power of different menſtrua on the Peruvian bark, is aſcertained with greater accuracy than had before been done: and it appears, that with reſpect to their comparative power, the fluids after mentioned act in the order in which they are placed.

Dulcified ſpirit of vitriol.
Cauſtic ley.
French brandy,
Rheniſh wine.
Soft water.
Vinegar and water.
Dulcified ſpirit of nitre.
Mild volatile alkali.
Rectified ſpirit of wine.
Mild vegetable alkali.
Lime water.

The antiſeptic powers of vinegar and bark united are double the ſum of thoſe taken ſeparately. The aſtringent power of the bark is increaſed by vitriolic acid; the bitter taſte is deſtroyed by it.

The officinal preparations of the bark are,

1. The powder: of this, the firſt parcel that paſſes the ſieve being the moſt reſinous and brittle part, is the ſtrongeſt.

2. The extract: the watery and ſpirituous extracts conjoined form the moſt proper preparations of this kind.

3. The reſin: this cannot perhaps be obtained ſeparate from the gummy part, nor would it be deſirable.

4. Spirituous tincture: this is beſt made with proof ſpirit.

5. The decoction: this preparation, though frequently employed, is yet in many reſpects inferior even to a ſimple watery infuſion.

The beſt form is that of powder;

der; in which the conſtituent parts are in the moſt effectual proportion. The cold infuſion which can be made in a few minutes by agitation, the ſpirituous tincture, and the extract, are likewiſe proper in this reſpect. For covering the taſte, different patients require different vehicles; liquorice, aromatics, acids, port-wine, ſmall-beer, porter, milk, butter-milk, &c. are frequently employed; and thoſe who diſlike the taſte of the bark itſelf, vary in their accounts to which the preference is due; or it may be given in form of electuary with currant-jelly, or with brandy or rum.

According to ſome, the Peruvians learned the uſe of this bark by obſerving certain animals affected with intermittents inſtinctively led to it; while others ſay, that a Peruvian having an ague was cured by happening to drink of a pool into which ſome trees of cinchona had accidentally fallen; and its uſe in gangrene is ſaid to have originated from its curing one in an aguiſh patient. About the year 1640, the lady of the Spaniſh viceroy, the Comitiſſa del Cinchon, was cured of an ague by the bark, which has therefore been called Cortex or Pulvis Comitiſſæ, Cinchona, Chinachina or Chinchina, Kinakina, or Kinkina, Quinaquina or Quinquina; and from the intereſt which the Cardinal de Lugo and the Jeſuit fathers took in its diſtribution, it has been called Cortex or Pulvis Cardinalis de Lugo, pulvis Jeſuiticus, Patrum, &c.

On its firſt introduction into Europe, it was reprobated by many eminent phyſicians; and at different periods long after, it was conſidered a dangerous remedy; but its character, in proceſs of time became very univerſally eſtabliſhed.

Practitioners have differed much with regard to the mode of operation of the Peruvian bark. Some have aſcribed its virtues entirely to a ſtimulant power; but while the ſtrongeſt and moſt permanent ſtimuli have by no means the ſame effect with bark in the cure of diſeaſes, the bark itſelf ſhews ſcarcely any ſtimulant power; either from its action on the ſtomach or on other ſenſible parts to which it is applied. From its action on dead animal fibres, there can be no doubt of its being a powerful aſtringent; and from its good effects in certain diſeaſes, there is reaſon to preſume that it is a ſtill more powerful tonic. To this tonic power ſome think that its action as an antiſeptic is to be entirely attributed: but that it has a powerful effect in reſiſting the ſeptic progreſs to which animal ſubſtances are naturally ſubjected, appears to be independant of tonic power, becauſe it reſiſts putrefaction in dead animal matter when entirely detached from the living body.

Although it be admitted that the Peruvian bark acts powerfully as an aſtringent, as a tonic, and as an antiſeptic, yet theſe principles will by no means explain all the effects derived from it in the cure of diſeaſes. And accordingly, from no artificial combination in which theſe powers are combined, or in which they exiſt even to a higher degree, can the good conſequences reſulting from Peruvian bark be obtained. Many practitioners therefore, are diſpoſed to view it as a ſpecific. If by a ſpecific we mean an infallible remedy, it cannot indeed be conſidered as intitled to that appellation; but in as far as it is a very powerful remedy, of the operation of which no ſatisfactory account has yet been given, it may with great propriety be denominated a ſpecific.

It was at firſt introduced, as has already been ſaid, for the cure of intermittent fevers; and in theſe, when properly exhibited, it rarely fails of ſucceſs. Practitioners, however, have differed with regard to the beſt mode of exhibition; ſome prefer giving it juſt before the fit, ſome during the fit, others immediately after it. Some order it in the quantity of an ounce, between the fits; the doſe being the larger and more frequent according to the frequency of the fits; and we think this mode of exhibition, although it may perhaps ſometimes lead to the employment of more bark than is neceſſary, preferable, from being beſt ſuited to moſt ſtomachs. The requiſite quantity is very different in different caſes: and in many vernal intermittents it ſeems even ſcarcely neceſſary.

It often vomits or purges, and ſometimes oppreſſes the ſtomach. Theſe, or any other effects that may take place, are to be counteracted by remedies particularly appropriated to them. Thus, vomiting is often reſtrained by exhibiting it in wine, looſeneſs by combining it with opium; and oppreſſion at the ſtomach, by the addition of an aromatic. But unleſs for obviating particular occurrences, it is more ſucceſsful when exhibited in its ſimple ſtate than with any addition; and there ſeems to be little ground for believing that its powers are increaſed by crude ſal ammoniac, or any other additions which have frequently been made.

It is now given, from the very commencement of the diſeaſe, without previous evacuations, which with the delay of the bark, or under doſes of it, by retarding the cure, often ſeem to induce abdominal inflammation, ſcirrhus, jaundice, hectic, dropſy, &c. ſymptoms formerly imputed to the premature or intemperate uſe of the bark, but which are beſt obviated by its early and large uſe. Its uſe is to be continued not only till the paroxyſms ceaſe, but till the appetite, ſtrength, and complexion return. Its uſe is then gradually to be left off, and repeated at proper intervals to ſecure againſt a relapſe, to which, however unaccountable, independently of the recovery of vigour, there often ſeems to be a peculiar diſpoſition; and eſpecially when the wind blows from the eaſt. Although, however, moſt evacuants conjoined with the Peruvian bark in intermittents are rather prejudicial than otherwiſe, yet it is of advantage, previous to its uſe, to empty the ſtomach; and on this account good effects are often obtained from premiſing an emetic.

It is a medicine which ſeems not only ſuited both to formed and latent intermittents, but to that ſtate of fibre on which all rigidly periodical diſeaſes ſeem to depend; as periodical pain, inflammation, hæmorrhagy, ſpaſm, cough, loſs of external ſenſe, &c.

Bark is now uſed by ſome in all continued fevers; at the ſame time attention is paid to keep the bowels clean, and to promote when neceſſary the evacuation of redundant bile; always, however, ſo as to weaken the patient as little as poſſible.

In confluent ſmall pox, it promotes languid eruption and ſuppuration, diminiſhes the fever thro' the whole courſe of it, and prevents or corrects putreſcence and gangrene.

In gangrenous ſore throats it is much uſed, as it is externally and internally in every ſpecies of gangrene.

In contagious dyſentery, after due evacuation, it has been uſed taken internally and by injection, with and without opium.

In all theſe hæmorrhagies called paſſive, and which it is allowed all hæmorrhagies are very apt to become, and likewiſe in other increaſed diſcharges, it is much uſed; and in certain undefined caſes of hæmoptyſis, ſome allege that it is remarkably effectual when joined with an abſorbent.

It is uſed for obviating the diſpoſition to nervous and convulſive diſeaſes; and ſome have great confidence in it joined with the acid of vitriol, in caſes of phthiſis, ſcrophula, ill-conditioned ulcers, rickets, ſcurvy, and in ſtates of convaleſcence.

In theſe caſes, notwithſtanding the uſe of the acid, it is proper to conjoin it with a milk diet.

In dropſy not depending on any particular local affection, it is often alternated or conjoined with diuretics, or other evacuants: and by its early exhibition after the water is once drawn off, or even begins to be freely diſcharged, a freſh accumulation is prevented, and a radical cure obtained. In obſtinate venereal caſes, particularly thoſe which appear under the form of pains in the bones, the Peruvian bark is often ſucceſsfully ſubjoined to mercury, or even given in conjunction with it.

CINERES CLAVELLATI [*Lond.*] *Kali impurum.*

LIXIVA [*Edin.*] *Alkali fixum vegetabile.*

Potaſh, Pearl-aſh, Lixive.

Potaſh is an impure alkaline ſalt, produced from moſt land plants by burning them with a cloſe ſmothering heat. In this ſtate they are called weed-aſhes, which contain beſides alkali, ſome charcoal, ſulphur, and a little vitriolated tartar. Theſe foreign matters are partly ſeparated, by mixing the aſhes with water, and paſſing it through a veſſel with holes at the bottom covered with ſtraw. It is then evaporated to the conſiſtence of honey, and afterwards burnt in an oven, from which it acquires a little ſtony matter. In this ſtate, from its colour, it is called pearl aſhes. If quick lime be mixed with the aſhes, and paſſed through the veſſel as before, the alkali is conſiderably deprived of its fixed air, is conſequently cauſtic, has a darker colour, and gives a rediſh ſolution, having diſſolved ſome of the iron of the pot it is prepared in, and from which it is called potaſh. Large quantities of it are brought to us from America, Ruſſia, and other places. Other kinds of impure vegetable alkali appear in commerce, under the names of caſhub, marcoſt aſhes, &c.

CINNAMOMUM [*Lond. Ed.*]

Cortex et ejus oleum eſſentiale.

Laurus Cinamomum Lin.

Cinnamon; the bark and its eſſential oil.

This is a light thin bark, of a reddiſh colour, rolled up in long quills or canes; of a fragrant delightful ſmell, and an aromatic, ſweet, pungent taſte, with ſome degree of aſtringency. It is generally mixed with the caſſia bark: this laſt is eaſily diſtinguiſhable by its breaking ſmooth, while cinnamon ſplinters; and by its ſlimy mucilaginous taſte, without the roughneſs of the true cinnamon. Cinnamon is a very elegant and uſeful aromatic, more grateful both to the palate and ſtomach, than moſt other ſubſtances of this claſs: by its aſtringent quality it likewiſe corroborates the viſcera, and proves of great ſervice in ſeveral kinds of alvine fluxes, and immoderate diſcharges from the uterus. An eſſential oil, a diſtilled water, a diſtilled ſpirit, and a tincture of it, are directed to be kept in the ſhops; but theſe are much more frequently prepared from caſſia than from cinnamon; and in thoſe formulæ, in which diſtillation is employed, the difference is perhaps not very material: but whether it be exhibited under the form of powder or infuſion, aſtringency is only to be looked for from the genuine cinnamon; and this is often required where it is employed as a ſpicy ingredient in a great number of compoſitions.

CITRUS [*Suec.*] *Corticis flavedo, oleum, ſuccus.*
Citrus medica Lin.
Citron; the yellow rind, oil, and juice.

The citron is an evergreen tree, or ſhrub, and is only a variety of the Lemon tree: it was firſt brought from Aſſyria and Media, (whence the fruit is called *mala Aſſyria, mala Medica)* into Greece, and thence into the ſouthern parts of Europe, where it is now cultivated; they grow alſo in our Weſt India iſlands. Citrons are rarely uſed among us: they are of the ſame quality with lemons, except that their juice is ſomewhat leſs acid. They enter, however, a conſiderable number of formulæ in ſeveral of the foreign pharmacopœias, and with us are frequently employed as a condiment.

COCCINELLA [*Lond. Ed.*]
Coccus cacti Lin.
Cochineal.

This is a ſmall, irregular, roundiſh body, of a dark red colour on the outſide, and a deep bright red within: it is brought from Mexico and New Spain. This ſubſtance was long ſuppoſed to be the ſeed of a plant; but it is an inſect of the Coccus kind, which breeds on the American prickly pear tree, and adheres to the plant without changing its place. Cochineal has been ſtrongly recommended as a ſudorific, cardiac, and alexipharmic; but practitioners have never obſerved any conſiderable effects from it. Its greateſt conſumption is among the ſcarlet dyers; and in medicine its principal uſe is a colouring drug: both watery and ſpirituous liquors extract its colour. In the London and Edinburgh pharmacopœias, ſome of the tinctures receive from this drug a fine red colour.

COCHLEARIA HORTENSIS [*Lond. Ed.*] *Folia.*
Cochlearia officinalis Lin.
Garden ſcurvy-graſs; the leaves.

COCHLEARIA MARINA. *Folia.*
Cochlearia anglica Lin.
Sea ſcurvy-graſs; the leaves.

Theſe plants have little other difference than that expreſſed in their titles; in taſte and medical virtue, the firſt is conſiderably the ſtrongeſt; and hence is alone retained both by the London and Edinburgh colleges.

Scurvy-graſs is a pungent ſtimulating medicine; capable of promoting the fluid ſecretions; it is particularly celebrated in ſcurvies, and is the principal herb employed in theſe kinds of diſorders in the northern countries.

COFFEA [*Brun.*] *Semen.*
Coffea arabica Lin.
Coffee; the fruit.

Coffee is the fruit of an oriental ſhrub, now cultivated in the Weſt Indies. This fruit is employed rather as food than as a medicine. The medical effects expected from it are to aſſiſt digeſtion, promote the natural ſecretions, and prevent or remove a diſpoſition to ſleepineſs. It has been recommended in ſpaſmodic aſthma; and in ſome caſes it is found highly uſeful in alleviating ſevere heacach.

COLCHICUM [*Lond. Ed.*] *Radix.*
Colchicum autumnale Lin.
Meadow ſaffron; the root.

This plant grows wild in meadows, in the more temperate parts of Europe. The roots, freed from the outer blackiſh coat and ſmall fibres, are white, and full of a white juice. In drying they become wrinkled and dark-coloured. Applied to the ſkin, this root ſhews ſome kind of acrimony. When taken internally, it is ſaid to excite a ſenſe of burning heat, bloody ſtools, and other violent ſymptoms. In the form of ſyrup, however, it has been given to the extent of two ounces a-day without any bad conſequence It is ſometimes employed as a diuretic in dropſy.

From its great activity it was long ranked among the poiſonous vegetables; but from this circumſtance it claimed the attention of Dr Stoerk of Vienna, who made it the ſubject of many experiments. According to his account, the recent root taken in ſubſtance, even to a very ſmall extent, produces alarming effects; but he found that an oxymel prepared from it might be uſed with ſafety, and proved a powerful diuretic Since his publication it has been uſed by other practitioners; but it has by no means ſupported the character which he gave of it, even when employed in much larger doſes than Dr Stoerk ſeems to have exhibited. On ſome occaſions, however, it operates as a powerful diuretic; and accordingly it is not only introduced into moſt of the modern pharmacopœias, but is alſo the baſis of different formulæ. The London college, in imitation of the original preſcription of Dr Stoerk, have introduced into their pharmacopœia an *oxymel colchici*; but the Edinburgh college, from an objection to honey, which, with ſome people, is apt to excite violent colic pains, have ſubſtituted a *ſyrupus colchici*; in which, however, nearly the ſame proportions are retained, ſugar being merely employed in place of honey. This ſyrup, in place of two or three drachms merely, has been given to the extent of two or three ounces in a day, in general without any inconvenience, and ſometimes with good effects: but like the other diuretics, it cannot be depended on.

COLOCYNTHIS [*Lond.*] *Fructus medulla* [*Ed.*] *Fructus cortice ſeminibuſque abjectis.*
Cucumis Colocynthis Lin.
Colloquintida, or bitter apple; the medullary part of the fruit.

This is the produce of a plant of the gourd kind, growing in Turkey. The fruit is about the ſize of an orange; its medullary part, freed from the rind and ſeeds, is alone uſed in medicine: this is very light white, ſpongy, compoſed of membranaceous leaves; of an extremely bitter, nauſeous, acrimonious taſte. Colocynth is one of the moſt powerful and moſt violent cathartics Many eminent phyſicians condemn it as dangerous, and even deleterious: others recommend it not only as an efficacious purgative, but likewiſe as an alterative in obſtinate chronical diſorders; in the doſe of a few grains, it acts with great vehemence. diſorders the body, and ſometimes occaſions a diſcharge of blood. Many attempts have been made to correct its virulence by the addition of acids, aſtringents, and the like; theſe may leſſen the force of the colocynth, but no otherwiſe than might be equally done by a reduction of the doſe. The beſt method of abating its virulence, without diminiſhing its purgative virtue, ſeems to be by triturating it with gummy farinaceous ſubſtances, or the oily ſeeds, which, without making any alteration in the colocynth itſelf, prevent its reſinous particles from cohering, and ſticking upon the inteſtines, ſo as to irritate, inflame, or corrode them. It is an ingredient in ſome of the purgative pills, and the cathartic extracts of the ſhops, particularly of the *Extractum colocynthidis compoſitum*, and *Pilulæ colocynthidis cum aloe.*

COLOMBA [*Lond. Ed.*] *Radix.*

Colomba; the root.

The botanical characters of the vegetable from whence this root is obtained are not yet aſcertained. It is brought from Colombo in Ceylon in the form of knobs, having a rough ſurface, and conſiſting of a cortical, woody, and medullary lamina. It has a diſagreeably bitter taſte, an aromatic flavour; is conſiderably antiſeptic, and particularly effectual in correcting and preventing the putridity of bile. Abroad it is much uſed in diſeaſes attended with bilious ſymptoms, particularly in cholera; and is ſaid to be ſometimes very effectual in other caſes of vomiting. Some conſider it as very uſeful in dyſpepſia. Half a drachm of the powder is given repeatedly in the day. Water is not ſo complete a menſtruum as ſpirits, but to their united action it yields a flavoured extract in very conſiderable quantity. Its uſe in medicine has been particularly recommended to the attention of practitioners by Dr Percival of Mancheſter in his Experimental Eſſays; and it has in general been found to anſwer expectation: but it is not ſo regularly imported as to admit of our ſhops being ſupplied with it of good quality; and we frequently find it in a very decayed ſtate.

CONSOLIDA [*Suec.*] *Radix.*
Symphytum officinale Lin.

Comfrey; the root.

This is a rough hairy plant, growing wild by river ſides and in watery places. The roots are large, black on the out ſide, white within, full of a viſcid glutinous juice, and of no particular taſte. They agree in quality with the roots of althæa; with this difference, that mucilage of *conſolida* is ſomewhat ſtronger bodied. Many ridiculous hiſtories of the conſolidating virtues of this plant are related by authors. At preſent it is ſo little employed in practice in

Britain, as to have no place in our pharmacopœias.

CONTRAYERVA [*Lond. Ed.*] *Radix.*

Dorſtenia contrayerva Lin.

Contrayerva; the root.

This is a knotty root, an inch or two long, and about half an inch thick of a reddiſh brown colour externally, and pale within: long, rough, ſlender fibres ſhoot out from all ſides of it; theſe are generally loaded with ſmall round knots. This root is of a peculiar kind of aromatic ſmell and a ſomewhat aſtringent, warm, bitteriſh taſte, with a light and ſweetiſh kind of acrimony when long chewed: the fibres have little taſte or ſmell; the tuberous part therefore ſhould be alone choſen. Contrayerva is one of the mildeſt of thoſe ſubſtances called alexipharmics; it is indiſputably a good and uſeful diaphoretic, and may be ſafely given in much larger doſes than the common practice is accuſtomed to exhibit it in. Its virtues are extracted both by water and rectified ſpirit, and do not ariſe in evaporation with either: the ſpirituous tincture and extract taſte ſtronger of the root than the aqueous ones.

CONVALLARIA [*Ed.*] *Radix.*

Convallaria Polygonatum Lin.

Solomon's ſeal; the roots.

The root of this common plant contains a ſweetiſh mucilage, and has been uſed in form of a poultice in inflammations; but whether this or any other is better than the common poultice of bread and milk is doubtful. A decoction of this root in milk has alſo been mentioned in certain caſes of hæmorrhagy. The flowers, berries, and leaves, are ſaid to be poiſonous.

COPAL [*Brun.*] *Reſina.*

Rhus copallinum Lin.

Copal.

Copal, ſuppoſed by ſome a mineral ſubſtance, appears to be a reſin obtained from large trees growing in New Spain. This reſin is brought to us in irregular lumps, ſome of which are tranſparent, of a yellowiſh or brown colour, others ſemitranſparent and whitiſh. It has never come into uſe as a medicine; and is rarely met with in the ſhops, but it is introduced into ſome of the foreign pharmacopœias, and may be conſidered as an article well deſerving attention.

CORALLINA [*Brun.*]

Corallina officinalis Lin.

Coraline, or ſea-moſs.

This is a branched cretaceous ſubſtance of a white colour: It is the habitation and production of polypi, and grows on rocks, and ſometimes on the ſhells of fiſhes. It is celebrated as a vermifuge, but on what foundation is very doubtful: to the taſte it is entirely inſipid, and probably operates only as an abſorbent earth.

CORALLIUM RUBRUM [*Lond.*]

Iſis nobilis Lin.

Red coral.

This is alſo a marine production, of the ſame nature with the foregoing. It cannot reaſonably be conſidered in any other light than as a mere abſorbent; as ſuch it enters the officinal crabs-claw powder, and is ſometimes in practice directed by itſelf; but it is ſo little employed, and of ſo little activity, that the Edinburgh college have with propriety rejected it from their liſt.

CORIANDRUM [*Lond. Ed.*] *Semen*

Coriandrum ſativum Lin.

Coriander; the ſeed.

Coriander is an umbelliferous plant, differing from all the others of that claſs in producing *ſpherical* ſeeds. Theſe, when freſh, have a ſtrong diſagreeable ſmell, which improves by drying, and becomes ſufficiently grateful; they are recommended as carminative and ſtomachic. They were formerly an ingredient in the officinal compound lime-water and electuary of bay berries; but both theſe formulæ are now rejected.

CORNU CERVI. See Cervus.

CORTEX PERUVIANUS. See Cinchona.

COTULA FŒTIDA [*Brun.*] *Folia.*

Anthemis Cotula Lin.

Mayweed, or wild chamomile.

This plant is common among corn, and in waſte places. In appearance it reſembles ſome of the garden chamomiles, but is eaſily diſtinguiſhable from them by its ſtrong fetid ſcent. It is rarely or never uſed in the preſent practice.

CRETA [*Lond. Ed.*]

Chalk.

This is an earth ſoluble in vinegar and the lighter acids, ſo as to deſtroy every ſenſible mark of their acidity. It is one of the moſt uſeful of the abſorbents, and is to be conſidered ſimply as ſuch: the aſtringent virtues which ſome attribute to it have no foundation, unleſs in ſo far as the earth is ſaturated with acid, with which it compoſes a ſaline concrete manifeſtly ſubaſtringent. It gives name to an officinal mixture, a powder, and potion, and is an ingredient in the chalk troches. It is employed alſo for extricating the volatile ſalt of ſal ammoniac.

CROCUS [*Lond. Ed.*] *Floris ſtigma.*

Crocus ſativus Lin.

Saffron; the ſtigmata.

Theſe ſtigmata, or fleſhy capillaments growing at the end of the piſtil of the flower, are carefully picked and preſſed together into cakes.

There are three ſorts of ſaffron met with in the ſhops, two of which are brought from abroad, the other is the produce of our own country; this laſt is much ſuperior to the two former, from which it may be diſtinguiſhed by its blades being broader. When in perfection it is of a fiery orange red colour, and yields a deep yellow tincture: it ſhould be choſen freſh, not above a year old, in cloſe cakes, neither dry nor yet very moiſt, tough and firm in tearing, of the ſame colour within as without, and of a ſtrong, acrid, diffuſive ſmell

Saffron is a very elegant and uſeful aromatic; beſides the virtues which it has in common with all the bodies of that claſs, it has been alleged that it remarkably exhilarates, raiſes the ſpirits, and is deſervedly accounted one of the higheſt cordials; taken in large doſes it is ſaid to occaſion immoderate mirth, involuntary laughter, and the ill effects which follow from the abuſe of ſpirituous liquors. This medicine is ſaid to be particularly ſerviceable in hyſteric depreſſions, or obſtruction of the uterine ſecretions, where other aromatics, even thoſe of the more generous kind, have little effect. Saffron imparts the whole of its virtue and colour to rectified ſpirit, proof ſpirit, wine, vinegar, and water: a tincture drawn with vinegar, loſes its colour in keeping: the watery and vinous tinctures are apt to grow ſour, and then loſe their colour alſo: that made in pure ſpirits keeps in perfection for many years. Its officinal preparations are, a ſpirituous tincture and ſyrup. It is an ingredient in ſeveral compoſitions; but of late years, the eſtimation in which it was held as a medicine has been rather on the decline. Some experiments made by Dr Alexander ſhew that it is much leſs powerful than was once imagined; and it was lately given in the Edinburgh Infirmary by Dr Henry Cullen, even to the the extent of half an ounce a day, in ſeveral hyſterical caſes, without any ſenſible effect whatever.

CUBEBA [*Lond, Ed.*]
Piper Cubeba Lin.
Cubebs.

Cubebs are a fruit brought from the Eaſt Indies. This fruit has a great reſemblance to pepper. The principal difference diſtinguiſhable by the eye, is that each cubeb is furniſhed with a long ſlender ſtalk whence they are called by ſome *piper caudatum.* In aromatic warmth and pungency, cubebs are far inferior to pepper. They were formerly an ingredient in mithridate and theriaca; but they do not enter any of the fixed formulæ of our pharmacopœias

CUCUMIS AGRESTIS [*L.*]
Fructus recens.
Momordica Elaterium Lin.
Wild cucumber: the fruit.

This plant, found wild in foreign countries, is with us cultivated in gardens. Its principal botanic difference from the common cucumber is the ſmallneſs of its fruit, which is no bigger than a Spaniſh olive; when ripe, it burſts on a ſlight touch, and ſheds its ſeeds with violence, and hence was named by the Greeks *elaterium.* This name is applied likewiſe to the fecula of the juice of the fruit, the only preparation of the plant uſed in medicine. The juice, on ſtanding, ſeparates into the fecula, which falls to the bottom, and a watery fluid which ſwims above. The clear part may be decanted off, and the reſt of the liquid drained off, by cotton threads hung over the ſides of the veſſel acting like ſyphons. The fecula may be farther dried by the ſun, or a ſlow heat; and in this dry ſtate it has the name of *elaterium.* Elaterium is a ſtrong cathartic, and very often operates alſo upwards. Two or three grains are accounted in moſt caſes a large doſe. Simon Paulli relates ſome inſtances of its good effects in dropſies, but cautious practitioners ought not to have recourſe to it till after milder medicines have proved ineffectual; to which caution we heartily ſubſcribe. Medicines indeed, which act with violence in a ſmall doſe, generally require the utmoſt ſkill to manage them with any tolerable degree of ſafety: to which may be added, that the various manners of making theſe kinds of preparations, as practiſed by different hands, muſt needs vary their power. Of late, the elaterium has not been unfrequently employed in obſtinate caſes of dropſy with ſucceſs; and when exhibited in doſes of only half a grain, repeated at ſhort intervals till its operation commences, it is in general ſufficiently moderate in its effects.

CUMINUM [*Lond. Ed.*] *Semen.*

Cuminum Cyminum Lin.

Cummin; the ſeed.

The cummin is an umbelliferous plant, in appearance reſembling fennel; but much ſmaller. The ſeeds uſed in Britain are brought chiefly from Sicily and Malta. Cummin ſeeds have a bitteriſh warm taſte, accompanied with an aromatic flavour not of the moſt agreeable kind. An eſſential oil is obtained from them by diſtillation, in which their activity is concentrated; and they are not unfrequently uſed externally, giving a name both to a plaſter and cataplaſm.

CUPRUM [*Lond.*] *Ærugo Vitriolum cæruleum.* [*Ed.*] *Cuprum vitriolatum.*

Copper.

Copper is one of the metals often uſed for different purpoſes in arts; and is found both in Britain, and in moſt other countries of Europe. It has never been uſed as a medicine in its proper metallic form; but it is readily acted on by all ſaline ſubſtances, both by acids, alkalies, and neutrals; and it is even corroded by moiſture.

Moſt of theſe preparations of copper are violently emetic, and therefore very rarely exhibited internally. Some have ventured on a ſolution of a grain or two of the metal in vegetable acids, and obſerve that it acts, almoſt as ſoon as received into the ſtomach, ſo as to be of great uſe for occaſioning poiſonous ſubſtances that have been ſwallowed, to be immediately thrown up again. Boerhaave recommends a ſaturated ſolution of this metal in volatile alkali as a medicine of great ſervice in diſorders proceeding from an acid, weak, cold, phlegmatic cauſe; if three drops of this tincture be taken every morning with a glaſs of mead, and the doſe doubled every day to twenty-four drops, it proves, he ſays, aperient, attenuating, warming, and diuretic; he aſſures us, that by this means he cured a confirmed aſcites, and that the urine run out as from an open pipe; but at the ſame time he acknowledges that, in other caſes it failed him. He likewiſe recommends other preparations of copper as of wonderful efficacy in certain kinds of ill habits, weakneſs of the ſtomach, &c. but we cannot think the internal uſe of this metal adviſeable in ordinary caſes, which can be combated by other means. Phyſicians in general ſeem to be agreed, that it has really a virulent quality; and too many examples are met with, of fatal conſequences enſuing from eating food, which had been dreſt in copper veſſels not well cleanſed from the ruſt which they had contracted by lying in the air.

Great care ought to be taken that acid liquors, or even water, deſigned for internal uſe, be not ſuffered to ſtand long in veſſels made of copper; otherwiſe they will diſſolve ſo much of this metal as will give them diſagreeable qualities. Hence, in diſtillation of ſimple waters with copper ſtills, the laſt runnings, which are manifeſtly acid, have frequently proved emetic. It is remarkable, that while weak acid liquors are kept boiling in copper veſſels, they do not ſeem to diſſolve any of the metal; but if ſuffered to remain in them for the ſame length of time without boiling, they become highly impregnated with the copper. Hence the confectioners, by ſkilful management, prepare the moſt acid ſyrups in copper veſſels, without giving them any ill taſte from the metal. But although copper be thus dangerous, ſome preparations of it are in certain caſes uſed with great advantage both externally and internally.

The chief preparations of copper are the blue vitriol, verdegris, and *cuprum ammoniacum ;* but the London college have given a place only to the two former. The blue vitriol is recommended by ſome as an uſeful emetic, particularly in caſes of incipient phthiſis with a view of reſolving tubercles. It is ſometimes employed as an aſtringent and eſcharotic ; and verdegris is uſed in form of ointment in certain ulcerations, in caſes of tinea capitis, and the like. The *cuprum ammoniacum*, though it has no place in the pharmacopœia of the London college, is a very active and powerful medicine ; and has produced a perfect cure in ſome inſtances of epilepſy.

CURCUMA [*Lond. Ed.*] *Radix.*

Curcuma longa Lin.

Turmeric ; the root.

Turmeric is a root brought from the Eaſt Indies, where it is uſed not only in medicine, but for colouring and ſeaſoning food, as rice. It is internally of a deep lively yellow or ſaffron colour, which it readily imparts to watery liquors. It has an agreeable weak ſmell, and a bitteriſh ſomewhat warm taſte. Turmeric is eſteemed aperient and emmenagogue, and of ſingular efficacy in the jaundice. It tinges the urine of a ſaffron colour.

CURSUTA [*Ed.*] *Radix.*

Gentiana purpurea Lin.

Curſuta ; the root.

The foreign root ſold under this name was introduced into the laſt edition but one of the Edinburgh pharmacopœia. It is now believed, that what has had the name of curſuta, is the root of the purple gentian : but what is uſually ſold under that title in our ſhops cannot, either by its appearance, taſte, or other ſenſible qualities, be diſtinguiſhed from the common gentian, the root of the gentiana lutea, afterwards to be mentioned. And as far as the medical properties of the curſuta have been aſcertained, they are preciſely the ſame with thoſe of gentian. See Gentiana.

CYDONIA MALUS [*Lond.*] *Fructus, Semen.*

Pyrus Cydonia Lin.

The quince ; its fruit and ſeeds.

Quinces have a very auſtere acid taſte : taken in ſmall quantity, they are ſuppoſed to reſtrain vomiting and alvine fluxes ; and more liberally to looſen the belly. The ſeeds abound with a mucilaginous ſubſtance of no particular taſte, which they readily impart to watery liquors : an ounce will render three pints of water thick and ropy like the white of an egg. A mucilage of the ſeeds is kept in the ſhops.

CYNOGLOSSUS [*Brun*]. *Radix.*

Cynogloſſus officinalis Lin

Hound's tongue ; the root.

The leaves of this plant are thought to reſemble a dog's tongue ; whence its name ; they are clothed with a whitiſh down ; it grows wild in ſhady lanes. The roots have a rank diſagreeable ſmell, and rough bitteriſh taſte, covered with a glutinous ſweetneſs. The virtues of this root are very doubtful; it is generally ſuppoſed to be narcotic, and by ſome to be virulently ſo: others declare, that it has no virtue of this kind, and conſider it as a mere glutinous aſtringent. The preſent practice takes no notice of it.

CYNOSBATUS [*Lond.*] *Fructus.*

Roſa canina Lin.

Dog-roſe; the fruit called hips.

This buſh grows wild in hedges throughout England. The flowers have a pleaſant ſmell; but ſo weak, that Parkinſon and others have named the plant *Roſa ſylveſtris inodora:* a water diſtilled from them ſmells agreeably. The fruit or hips contain a ſouriſh ſweetiſh pulp; with a rough prickly matter incloſing the ſeeds, from which the pulp ought to be carefully ſeparated before it be taken internally: the Wirtemberg college obſerves, that from a neglect of this caution, the pulp of hips ſometimes occaſions a pruritus and uneaſineſs about the anus; and the conſerve of it has been known to excite violent vomiting. The conſerve is the only officinal preparation of this fruit. As it is not ſuppoſed to poſſeſs any particular medical virtue, but is merely uſed to give form to other articles, the Edinburgh college have omitted it.

CYPERUS [*Brun.*] *Radix.*

Cyperus longus Lin.

Cyperus; the root.

This is a plant of the graſs kind; it is ſometimes found wild, in marſhy places in England; the roots are generally brought to us from Italy. This root is long, ſlender, crooked, and full of knots; outwardly of a dark brown, or blackiſh colour, inwardly whitiſh; of an aromatic ſmell, and an agreeable warm taſte: both the taſte and ſmell are improved by moderate exſiccation. Cyperus is accounted a good ſtomachic and carminative, but is at preſent very little regarded.

DACTYLUS [*Brun.*] *Fructus.*

Phœnix dactilyfera Lin.

The date; the fruit.

Dates are imported into Britain in the ſtate of a half-dried fruit, about the ſhape of an acorn, but generally larger, conſiſting of a ſweet pulpy part, and a hard ſtone: the beſt are brought from Tunis. They were formerly uſed in pectoral decoctions; and ſuppoſed, beſides their emollient and incraſſating virtue, to have a ſlight aſtringency.

DAUCUS CRETICUS [*Brun.*] *Semen.*

Athamanta cretenſis Lin.

Candy carrot; the ſeeds.

This is an umbelliferous plant, growing wild in the Levant and the warmer parts of Europe. The ſeeds, which are brought from Crete, have a warm biting taſte, and an agreeable aromatic ſmell. They are carminative, and ſaid to be diuretic, but are at preſent little uſed.

DAUCUS SYLVESTRIS [*Lond. Ed.*] *Semen.*

Daucus Carota Lin.

Wild carrot; the ſeed.

This is common in paſture grounds and fallow fields throughout England. The ſeeds poſſeſs the virtues of thoſe of the *daucus creticus*, in an inferior degree; and have often ſupplied their place in the ſhops, and been themſelves ſupplied by the ſeeds of the garden carrot; theſe laſt are in warmth and flavour the weakeſt of the three.

DENS LEONIS. See TARAXACUM.

DICTAMNUS ALBUS [*Ed.*] *Radix.*

Dictamnus albus Lin.

White or baſtard dittany; the root.

This plant grows wild in the mountainous parts of France, Italy, and Germany. From thence the cortical part of the root, in a dry ſtate, rolled up in little quills, is ſometimes brought to us. It is of a white colour, of a weak not very agreeable ſmell, and of a durable bitter and ſlightly pungent taſte. It has been recommended as an alexipharmic, a tonic, and an anthelmintic; but it is very ſeldom uſed, and has no place in the London pharmacopœia.

DICTAMNUS CRETICUS [*Suec.*] *Folia.*

Origanum Dictamnus Lin.

Dittany of Crete; the leaves.

This is a kind of origanum ſaid to grow plentifully in the iſland of Candy, in Dalmatia, and in the Morea: it has been found hardy enough to bear the ordinary winters of our own climate. The leaves, which are the only part in uſe with us, come from Italy. The beſt ſort are well covered over with a thick white down, and now and then intermixed with purpliſh flowers. In ſmell and taſte, they ſomewhat reſemble lemon thyme: but have more of an aromatic flavour, as well as a greater degree of pungency; when freſh, they yield a conſiderable quantity of an excellent eſſential oil. But they have now no place either in the London or Edinburgh pharmacopœias.

DIGITALIS [*Lond. Ed.*] *Herba.*

Digitalis purpurea Lin.

Fox glove; the plant.

This grows wild in woods, and on uncultivated heaths; the elegant appearance of its purple flowers (which hang in ſpikes along one ſide of the ſtalk) has gained it a place in ſome of our gardens. The leaves have been ſtrongly recommended externally, againſt ſcrophulous tumours; and likewiſe internally, in epileptic diſorders: what ſervice they may be capable of doing in theſe caſes is not aſcertained by accurate experiment. Several examples are mentioned by medical writers of their occaſioning violent vomiting, hypercatharſis, and diſordering the whole conſtitution; inſomuch that Boerhaave accounts them poiſonous. The taſte of them is bitter, and very nauſeous.

Digitalis, however, has lately been employed with great ſucceſs in other diſeaſes. A treatiſe was publiſhed a few years ſince by Dr Withering, profeſſedly on the ſubject of its uſe in medicine, which contains many important and uſeful obſervations.

An infuſion of two drachms of the leaf in a pint of water, given in half-ounce doſes every two hours till it began to puke or purge, is recommended in dropſy, particularly that of the breaſt. It is ſaid to have produced an evacuation of water ſo copious and ſudden, in aſcites, by ſtool and urine, that the compreſſion of bandages was found neceſſary. The plentiful uſe of diluents is ordered during its operation. This remedy, however, is inadmiſſible in weakly patients. Beſides being given in infuſion, it has alſo been employed in ſubſtance. And when taken at bed time to the extent of one, two, or three grains of the dried powder, it often in a ſhort time operates as a very powerful diuretic, without producing any other evacuation. Even this quantity, however, will ſometimes excite very ſevere vomiting, and that too occurring unexpectedly. During its operation it has a very remarkable influence in rendering the pulſe ſlower; and it frequently excites very conſiderable vertigo, and an affection of viſion.

Beſides dropſy, the digitalis has of late alſo been employed in ſome inſtances of hæmoptyſis, of phthiſis, and of mania, with apparent good effects. But its uſe in theſe diſeaſes is much leſs common than in dropſy.

DOLICHOS [*Ed.*] *Pubes leguminis rigida.*

Dolichos pruriens Lin.

Cowhage; the rigid down of the pod.

The dolichos is a plant growing in great abundance in warm climates, particularly in the Weſt India iſlands; and there it is very troubleſome to cattle and other domeſtic animals. For on account of the ſpiculæ of the ſeed bag, it excites, when touched, a very uneaſy itching. Theſe ſpiculæ have been long uſed in South America, in caſes of worms; and have of late been frequently employed in Britain. The ſpiculæ of one pod mixed with ſyrup or molaſſes, and taken in the morning faſting, is a doſe for an adult. The worms are ſaid to appear with the ſecond or third doſe; and by means of a purge in ſome caſes the ſtools are ſaid to have conſiſted almoſt entirely of worms. Thoſe who have uſed it moſt, particularly Dr Bancroft and Dr Cochrane, affirm that they have never ſeen any inconvenience reſulting from the internal uſe of it, notwithſtanding the great uneaſineſs it occaſions on the ſlighteſt touch to any part of the ſurface.

DORONICUM GERMANICUM. See Arnica.

DULCAMARA [*Ed.*] *Stipites*

Solanum Dulcamara Lin.

Bitter ſweet, or woody nightſhade; the ſtalk.

This plant grows wild in moiſt hedges, and climbs on the buſhes with woody brittle ſtalks. The taſte of the twigs and roots as the name of the plant expreſſes, is both bitter and ſweet: the bitterneſs being firſt perceived, and the ſweetneſs afterwards. The dulcamara was formerly much eſteemed as a powerful medicine. It is in general ſaid to occaſion ſome conſiderable evacuation by ſweat, urine, or ſtool, particularly the latter. It has been recommended as a diſcutient and reſolvent medicine, and it has been ſaid to be attended with good effects in obſtinate cutaneous diſeaſes of the herpetic kind. It has alſo been uſed, and ſometimes with advantage, in caſes of rheumatiſm, jaundice, and obſtructed menſtruation. It has principally been employed under the form of watery infuſion, ſometimes under that of extract.

EBULUS [*Suec.*] *Radix, folia, baccæ.*

Sambucus Ebulus Lin.

Dwarf elder; the root, leaves, and berries.

This plant grows wild in ſome counties of England; but about London it is rarely met with, unleſs in gardens; the eye diſtinguiſhes little difference between it and the elder tree except in the ſize; the elder being a pretty large tree, and the dwarf elder only an herb three or four feet high. The leaves, roots, and bark of *ebulus* have a nauſeous, ſharp, bitter taſte, and a kind of acrid ungrateful ſmell: they are all ſtrong cathartics, and as ſuch are recommended in dropſies, and other caſes where medicines of that kind are indicated. The bark of the root is ſaid to be ſtrongeſt; the leaves the weakeſt. But they are both too draſtic medicines for general uſe: they ſometimes evacuate violently upwards, almoſt always nauſeate the ſtomach, and occaſion great uneaſineſs of the bowels. By boiling, they become like other draſtics, milder, and more ſafe in operation. Fernelius relates, that by long coction they entirely loſe their purgative virtue. The berries of this plant are likewiſe purgative, but leſs virulent than the other parts. A rob prepared from them may be given, even to the quantity of an ounce, as a cathartic; and in ſmaller ones as an aperient and deobſtruent in chronic diſorders: with this laſt intention, it is ſaid by Haller to be frequently uſed in Switzerland, in the doſe of a drachm.

ELATERIUM. See CUCUMIS AGRESTIS.

ELEMI [*Lond.*] *Reſina.*

Amyris elemifera Lin.

Gum elemi.

This is a reſin brought from the Spaniſh Weſt Indies, and ſometimes from the Eaſt-Indies, in long roundiſh cakes, generally wrapped up in flag leaves. The beſt ſort is ſoftiſh, ſomewhat tranſparent, of a pale whitiſh yellow colour, inclining a little to green, of a ſtrong, not unpleaſant, ſmell. It almoſt totally diſſolves in pure ſpirit, and ſends over ſome part of its fragrance along with this menſtruum in diſtillation: diſtilled with water, it yields a conſiderable quantity of pale coloured, thin, fragrant eſſential oil. This reſin gives name to one of the officinal ointments, and it is at preſent ſcarcely any otherwiſe uſed; though it is certainly preferable for internal purpoſes to ſome others which are held in greater eſteem.

ELEUTHERIA. See CASCARILLA.

ENDIVIA [*Brun.*] *Semen.*

Cichoreum Endivia Lin.

Endive; the ſeed.

Endive is raiſed in gardens for culinary uſe. It is a gentle cooler and aperient, nearly of the ſame quality with the *cichoreum.*

ENULA CAMPANA [*Lond.*] *Radix.*

HELENIUM [*Ed.*] *Radix.*

Inula Helenium Lin.

Elecampane; the roots.

This is a very large downy plant, ſometimes found wild in moiſt rich ſoils. The root, eſpecially when dry, has an agreeable aromatic ſmell: its taſte, on firſt chewing, is glutinous, and as it were ſomewhat rancid; in a little time it diſcovers an aromatic bitterneſs,

terneſs, which by degrees becomes conſiderably acrid and pungent. Elecampane root is principally recommended for promoting expectoration in humoral aſthmas and coughs: liberally taken, it is ſaid to excite urine, and looſen the belly. In ſome parts of Germany, large quantities of this root are candied, and uſed as a ſtomachic, for ſtrengthening the tone of the viſcera in general. Spirituous liquors extract its virtues in greater perfection than watery ones: the former ſcarcely elevate any thing in diſtillation: with the latter an eſſential oil ariſes, which concretes into white flakes: this poſſeſſes at firſt the flavour of the elecampane, but is very apt to loſe it in keeping. An extract made with water poſſeſſes the bitterneſs and pungency of the root, but in a leſs degree than one made with ſpirit.

ERUCA [*Brun.*] *Semen.*
Braſſica Eruca Lin.
Rocket: the ſeeds.

This was formerly much cultivated in gardens for medicinal uſe, and for ſallads; but is at preſent leſs common. In appearance, it reſembles muſtard; but is eaſily diſtinguiſhable by the ſmoothneſs of its leaves, and its diſagreeable ſmell. The ſeeds have a pungent taſte, of the muſtard kind, but weaker: they have long been celebrated as aphrodiſiacs; and may, probably, have in ſome caſes a title to this virtue, in common with other acrid plants.

ERYNGIUM [*Lond.*] *Radix.*
Eryngium maritimum Lin.
Eryngo; the root.

This plant grows plentifully in ſome of our ſandy and gravelly ſhores; the roots are ſlender, and very long; of a pleaſant ſweetiſh taſte, which on chewing them for ſome time, is followed by a light degree of aromatic warmth and acrimony. They are accounted aperient and diuretic, and have alſo been celebrated as aphrodiſiac; their virtues, however, are too weak to admit them under the head of medicines.

EUPATORIUM [*Brun*] *Herba.*
Eupatorium cannabinum Lin.
Hemp agrimony; the plant.

This plant is found wild by the ſides of rivers and ditches. It has an acrid ſmell, and a very bitter taſte, with a conſiderable ſhare of pungency. The leaves are much recommended for ſtrengthening the tone of the viſcera, and as an aperient; and are ſaid to have excellent effects in the dropſy, jaundice, cachexies, and ſcorbutic diſorders. Boerhaave informs us, that this is the common medicine of the turf-diggers in Holland, againſt ſcurvies, foul ulcers, and ſwellings in the feet, to which they are ſubject. The root of this plant is ſaid to operate as a ſtrong cathartic: but it is not uſed in Britain, and has no place in our pharmacopœias.

EUPHORBIUM [*Suec.*] *Gummi reſina.*
Euphorbia officinarum Lin.
Euphorbium.

This gummi reſinous ſubſtance is a ſpontaneous exudation from a large oriental tree. It is brought to us immediately from Barbary, in drops of an irregular form; ſome of which on being broken are found to contain little thorns, ſmall twigs, flowers, and other vegetable matters; others are hollow, without any thing in their cavity: the tears in general are of a pale yellow colour externally, but ſomewhat white within: they break eaſily between the fingers. Lightly applied to the tongue, they affect it with a very ſharp biting taſte; and, on being held for ſometime in the mouth, they prove vehemently acrimonious, inflaming and exulcerating the fauces, &c. Euphorbium is extremely troubleſome to pulveriſe; the finer part of the powder, which flies off, affecting the head in a violent manner. The acrimony of this ſubſtance is ſo great as to render it unfit for any internal uſe: ſeveral correctors have been contrived to abate its virulence; but the beſt of them are not to be truſted: and as there ſeems to be no real occaſion for it, unleſs for ſome external purpoſes, we think, with Hoffman and others, that it ought to be expunged from the catalogue of internal medicines. And accordingly it has now no place in the London or Edinburgh pharmacopœias; but is ſtill retained in moſt of the foreign ones, and is ſometimes uſed as a ſternutatory.

EUPHRASIA [*Brun.*] *Folia.*
Euphraſia officinarum Lin.
Eye-bright; the leaves.

This is a very low plant, growing wild in moiſt fields. It was formerly celebrated as an ophthalmic, both taken internally and applied externally. Hildanus ſays, he has known old men of ſeventy, who had loſt their ſight, recover it again by the uſe of this herb: later practitioners, however, have not been ſo happy as to obſerve any ſuch good effects from it. At preſent it is totally, and not unjuſtly, diſregarded.

FABA [*Roſ.*] *Semen.*
Vicia Faba Lin,
Beans; the ſeed.

Beans are of greater uſe for culinary than medical purpoſes; they are a ſtrong flatulent food, ſufficiently nutritious, but not eaſy of digeſtion, eſpecially when grown old. A water diſtilled from the flowers has been celebrated as a coſmetic, and ſtill retains its character among ſome female artiſts.

FERRUM [*Lond. Edin.*]
Limatura, Squamæ, Rubigo, Limatura Saccharata vulgo *Mars Saccharatus*; *Ferrum vitriolatum.*
Iron.

Iron cemented with animal or vegetable coal, forms ſteel.

Steel is accounted leſs proper for medicinal uſe than the ſofter iron, as being more difficultly acted on by the animal juices and the common menſtrua: iron diſſolves readily in all acids, and ruſts freely in the air, eſpecially if occaſionally moiſtened with water; ſteel requires a longer time for its ſolution, and does not ruſt ſo eaſily.

The general virtues of theſe metals, and ſeveral preparations of them, are, to conſtringe the fibres, to quicken the circulation, to promote deficient ſecretions, and at the ſame time repreſs inordinate diſcharges into the inteſtinal tube. By the uſe of them, the pulſe is very ſenſibly raiſed; the colour of the face, though pale before, changes to a florid red; the alvine, urinary, and cuticular excretions, are increaſed. Nidorous eructions, and the fæces voided being of a black colour, are marks of the medicine taking due effect.

An aperient virtue is uſually attributed to ſome of the preparations of iron, and an aſtringent to others; but in reality, they all produce the effects both of aperients and aſtringents, and ſeem to differ only in degree. Thoſe diſtinguiſhed by the name of aſtringent ſometimes occaſion a very copious diſcharge of urine, or a diarrhœa; while thoſe called aperient frequently ſtop theſe evacuations.

Where either preternatural diſcharge, or ſuppreſſion of natural ſecretions, proceeds from a languor, this metal will ſuppreſs the flux, or remove the ſuppreſſion; but where the circulation is already too quick, and the ſolids too tenſe and rigid, or where there is any ſtricture or ſpaſmodic contraction of the veſſels; iron, and all the preparations of it will aggravate the ſymptoms.

Though the different preparations of iron act all in the ſame manner, yet they are not equally proper in all conſtitutions. Where acidities abound in the firſt paſſages, the crude filings reduced into a fine powder, prove more ſerviceable than the moſt elaborate preparation of them. On the other hand, where there is no acid in the primæ viæ, the metal ought to be diſſolved in ſome ſaline menſtruum; hence a ſolution of iron in acid liquors has in many caſes excellent effects, where, as Boerhaave obſerves, the more indigeſtible preparations, as the calces made by fire, have ſcarcely any effect at all. If alkaleſcent juices be lodged in the ſtomach, this metal, though given in a liquid form, proves at leaſt uſeleſs; for here the acid ſolvent is abſorbed by the alkaline matters which it meets with in the body, ſo as to leave the iron reduced to an inactive calx.

Chalybeate medicines are likewiſe ſuppoſed to differ, independently of differences in the conſtitution, according to the nature of the acid united with the metal: vegetable acids ſuperadd a detergency and aperient virtue; combined with the vitriolic, it acts in the firſt paſſage as a powerful aperient; while the nitrous renders it extremely ſtyptic, and the muriatic ſtill more ſo. The different preparations of iron will be more particularly mentioned afterwards.

Iron is the only metal which ſeems naturally friendly to the animal body.

Its chief preparations are the prepared filings and ruſt, the tincture, the ſalt, and the martial flowers, or *ferrum ammoniacale*; and theſe are uſed principally in caſes of weakneſs and relaxation, whether attended with morbid diſcharges, or morbid ſuppreſſions.

FILIX [*Lond. Ed.*] *Radix.* *Polypodium Filix mas Lin.*

Common male fern; the root.

Several ſpecies of the fern root had formerly a place in the materia medica, and the preſent article ſeems to have been employed at leaſt as early as the days of Dioſcorides, for the purpoſe for which it is now uſed in medicine. It was however entirely neglected, till ſome years ago, a remedy employed by Madame Noufer of Switzerland for the cure of the tænia, claimed the attention of the practitioners of France. Her ſecret, after being tried at Paris under the direction of ſome of the moſt eminent phyſicians, was purchaſed by the French king, and afterwards publiſhed. Since that time, the filix mas has been introduced into the pharmacopœias both of the London and Edinburgh colleges.

The filix mas is a vegetable growing in great abundance in almoſt every part of Britain where the ground is not cultivated. The greateſt part of the root lies horizontally, and has a number of appendages placed cloſe to each other in a vertical direction, while a number of ſmall fibres ſtrike downwards. The large root, together with its appendages, are to be reſerved for uſe. The two ends, however, are to be cut off, the one being too old and ſpongy, the other too new and green.

This root, under the form of powder, is found to be a very effectual cure for the tænia lata, or tape-worm. It ſometimes alſo, although not with equal certainty, ſucceeds in the removal of the tænia cucurbitina, or gourd-worm.

Two or three drachms of the powder are taken in the morning, no ſupper having been taken the night before. It generally creates a ſlight ſickneſs. A briſk cathartic with calomel is given a few hours after, which ſometimes brings off the tænia entire; if not, the ſame courſe muſt be followed at due intervals.

After being long kept in the ſhops, its activity is much diminiſheſt. It ought therefore to be uſed as ſoon as it is taken out of the ground, being brought to a ſtate fit for reducing it to powder by drying it before the fire.

FLAMULA JOVIS [*Edin.*] *Folia, flores.*

Clematis recta Lin.

Upright virgin's bower; the leaves and flowers.

This article is introduced into but few of the modern pharmacopœias, and has never been much employed in Britain. As well as many other active articles, ſuppoſed to be of a poiſonous nature, it was ſome time ago recommended to the attention of practitioners by Dr Stoerk of Vienna.

Its leaves and flowers are ſo acrid as to bliſter. Dr Stoerk recommends it in venereal, cancerous and other cutaneous affections, in thoſe headachs, pains of the bones, and waſtings of the habit, the conſequences of lues venerea. Externally the powder is ſprinkled on the ulcers; the forms for internal uſe are the infuſion and extract.

FŒNICULUM DULCE [*Lond.*] *Semen* [*Ed.*] *Semen, Radix.*

Anethum Fœniculum Lin.

Sweet fennel; the ſeeds and root.

The ſeeds of fennel have an aromatic ſmell, and a moderately warm, pungent taſte, and a conſiderable degree of ſweetneſs. A ſimple water is prepared from them in the ſhops; they are ingredients in the compound ſpirit of junipers and ſome other officinal compoſitions.

The root is far leſs warm, but, has more of a ſweetiſh taſte, than the ſeeds: Boerhaave ſays, that this root agrees in taſte, ſmell, and medical qualities, with the celebrated *ginſeng* of the Chineſe; from which, however, it appears to be very conſiderably different.

The leaves of fennel are weaker than either the roots or ſeeds, and have very rarely been employed for any medicinal uſe.

FŒNUM GRÆCUM [*Lond. Ed*] *Semen.*

Trigonella Fœnum-græcum Lin.

Fenugreek; the ſeed.

This plant is cultivated chiefly in the ſouthern parts of France, Germany, and Italy; from whence the ſeeds are brought to us. They are of a yellowiſh colour, a rhomboidal figure, a diſagreeable ſtrong ſmell, and a mucilaginous taſte. Their principal uſe is in cataplaſms, fomentations, and the like, and in emollient glyſters. They entered the *oleum e mucilaginibus* of the ſhops; to which they communicate a conſiderable ſhare of their ſmell. But this formula is now rejected.

FORMICÆ CUM ACERVO [*Suec.*]

Formica rufa Lin.

Ants.

Theſe inſects are at preſent not employed by us in medicine, though formerly much celebrated for aphrodiſiac virtues. They enter the *aqua magnanimitatis*, and other compoſitions of foreign diſpenſatories. Theſe animals contain a truly acid juice, which they ſhed in ſmall drops on being irritated; by infuſing a quantity of live and vigorous ants in water, an acid liquor is obtained nearly as ſtrong as good vinegar. Neumann obſerves, that on diſtilling them either with water or pure ſpirit, a clear limpid oil ariſes, which has ſcarcely any taſte, or at leaſt is not hot or pungent like the eſſential oils of vegetables.

In ſome of the foreign pharmacopœias, they are the baſis of an *oleum formicarum*, a *ſpiritus formicarum*, and a *ſpiritus formicarum acidus*.

FRAGA [*Suec.*] *Fructus recens, folia.*

Fragaria veſca Lin.

Strawberry; its leaves and fruit.

The leaves are ſomewhat ſtyptic and bitteriſh; and hence may be of ſervice in debility and laxity of the viſcera; and immoderate ſecretions, or a ſuppreſſion of the natural evacuations, depending thereon: they are recommended in hæmorrhagies and fluxes; and likewiſe as aperients, in ſuppreſſion of urine, obſtructions of the viſcera, in the jaundice, &c. The fruit is in general very grateful both to the palate and ſtomach: like other fruits of the dulco-acid kind, they abate heat, quench thirſt, looſen the belly, and promote urine; but do not afford much nouriſhment. Geoffroy obſerves, that the urine of thoſe who eat liberally of this fruit, becomes impregnated with its fragrant ſmell.

FRAXINELLA, ſee DICTAMNUS ALBUS.

FRAXINUS [*Suec.*] *Cortex et ſemen.*

Fraxinus excelſior Lin.

The aſh-tree, its bark and ſeeds.

The bark of this tree is moderately aſtringent, and as ſuch has ſometimes been uſed. It has alſo been propoſed as a ſubſtitute for the Peruvian bark in the cure of intermittents; but its efficacy is not confirmed by experience. The ſeeds, which are ſomewhat acrid, have been employed as aperients. There are ſo many other medicines more agreeable, and more efficacious for theſe intentions, that all the parts of the aſh-tree have long been neglected.

FULIGO LIGNI [*Ed.*]

Wood ſoot.

This concrete is of a ſhining black colour, a diſagreeable ſmell, and an acrid, bitter, nauſeous taſte. Its chief uſe is in hyſteric and other nervous caſes, in which it is ſometimes given in conjunction with the fetid gums. Its virtues are extracted both by watery and ſpirituous liquors; each of which, if the ſoot be of a good kind, diſſolve about one ſixth. Soot is ſaid to differ greatly in quality according to the wood from which it is produced: the more reſinous the wood, the more the ſoot abounds with bitter oily matter. On chemical analyſis, it yields volatile and fixed alkali, empyreumatic oil, and earth.

FUMARIA [*Ed.*] *Folia.*
Fumaria officinalis Lin.
Fumitory; the leaves.

This is a common weed in ſhady cultivated grounds, producing ſpikes of purpliſh flowers It is very juicy, of a bitter taſte, without any remarkable ſmell. The medical effects of this herb are, to ſtrengthen the tone of the bowels, gently loosen the belly, and promote the urinary and other ſecretions. It is principally recommended in melancholic, ſcorbutic, and cutaneous diſorders; for opening obſtructions of the viſcera, and promoting evacuations. Frederick Hoffman had a very high opinion of it as a purifier of the blood; and aſſures us, that for this purpoſe ſcarcely any plant exceeds it. Both watery and ſpirituous menſtrua extract its virtues.

GALANGA MINOR [*Brun.*] *Radix.*
Maranta Galanga Lin.
Galangal; the root,

This root is brought from China, it comes to us in pieces ſcarcely an inch long, and not half ſo thick, full of joints, with ſeveral circular rings on the outſide; of an aromatic ſmell, and a bitteriſh, hot, biting taſte. Galangal is a warm ſtomachic bitter: it has been frequently preſcribed in bitter infuſions, but the flavour it gives is not agreeable.

GALBANUM [*Lond. Ed.*] *Gummi reſina.*
Bubon Galbanum Lin.
Galbanum; the gum.

This is the concrete juice of an African plant; as brought to us, it is ſemipellucid, ſoft, tenacious; of a ſtrong, unpleaſant ſmell; and a bitteriſh warm taſte: the bitter ſort is in pale-coloured maſſes, which on being opened, appear compoſed of clear white tears. Geoffroy relates, that a dark greeniſh oil is to be obtained from it by diſtillation, which, on repeated rectifications, becomes of an elegant ſky blue colour. The purer ſorts of galbanum are ſaid to diſſolve entirely in wine, vinegar, or water; but theſe liquors are only partial menſtrua of it; nor do ſpirit of wine, or oils, prove more effectual in this reſpect: the beſt ſolvent is a mixture of two parts ſpirit of wine and one of water. Galbanum agrees in virtue with gum ammoniacum; but is generally accounted leſs efficacious in aſthmas, and more ſo in hyſterical complaints. It is an ingredient in the gum pills, the gum plaſter, and ſome other officinal compoſitions.

CALLA [*Lond. Ed.*]
Cynipidis nidus.
Galls.

Theſe are excreſcences found upon the oak tree: they are produced by a kind of inſect (the cynips) which wounds the young buds or branches, and depoſites one of its eggs in the inciſion: Some of the juice of the tree exudes from the wound, and the callous edges of it increaſe to a tubercle which ſerves as a neſt for the egg of the animal. After the egg is hatched the animal eats its way through: thoſe galls which have no hole are found to have the inſect remaining in them. The beſt galls come from Aleppo: they are not quite round and ſmooth like the other ſorts, but have ſeveral tubercles on the ſurface. Galls have a very auſtere ſtyptic taſte without any ſmell: they are very ſtrong aſtringents, and as ſuch have been ſometimes uſed both internally and externally, but are not much taken notice of by the preſent practice.

Some recommend an ointment of powdered galls and hogs lard as very effectual in certain painful ſtates of hæmorrhoids; and it is alleged, that the internal uſe of galls has cured intermittents after Peruvian bark has failed. A mixture of galls with a bitter and aromatic has been propoſed as a ſubſtitute for the bark.

GAMBOGIA [*Lond. Ed.*]

Gummi reſina.

Gambogia Gutta Lin.

Gamboge; the gum reſin.

Gamboge; a ſolid concrete juice, brought from the Eaſt Indies in large cakes or rolls The beſt ſort is of a deep yellow or orange colour, breaks ſhining and free from droſs. It has no ſmell, and very little taſte, unleſs kept in the mouth for ſome time, when it impreſſes a ſlight ſenſe of acrimony. It immediately communicates to ſpirit of wine a bright golden colour, which almoſt entirely diſſolves it; Geoffroy ſays, except the ſixth part. Alkaline ſalts enable water to act upon this ſubſtance powerfully as a menſtruum: the ſolution made by their means is ſomewhat tranſparent, of a deep blood-red colour, and paſſes the filtre: the dulcified ſpirit of ſal ammoniac readily and entirely diſſolves it, and takes up a conſiderable quantity; and what is pretty remarkable, this ſolution mixes either with water or ſpirit, without growing turbid.

Gamboge evacuates powerfully both upwards and downwards; ſome condemn it as acting with too great violence, and occaſioning dangerous hypercatharſes; while others are of a contrary opinion. Geoffroy ſeems particularly fond of this medicine, and informs us, that he has frequently given from two to four grains, without its proving at all emetic; that from four to eight grains both vomits and purges without violence; that its operation is ſoon over; and that if given in a liquid form, and ſufficiently diluted, it does not need any corrector; that in the form of a bolus or pill, it is moſt apt to prove emetic, but very rarely has this effect if joined along with *Calomel.* He nevertheleſs cautions againſt its uſe where the patients cannot eaſily bear vomiting.

It has been uſed in dropſy with cream of tartar or jalap, or both, to quicken their operation. It is alſo recommended by ſome to the extent of fifteen grains with an equal quantity of vegetable alkali in caſes of the tape-worm. This doſe is ordered in the morning; and if the worm is not expelled in two or three hours, it is repeated even to the third time with ſafety and efficacy. It is aſſerted, that it has been given to this extent even in delicate habits.

This is ſaid to be the remedy alluded to by Baron Van Swieten, which was employed by Dr Herrenſchward, and with him proved ſo ſucceſsful in the removal of the tænia lata.

GENISTA [*Lond.*] *Cacumen, ſemen.* [*Ed.*] *ſummitates.*

Spartium Scoparium Lin.

Broom; the tops and ſeed.

The leaves of this ſhrub have a nauſeous bitter taſte: decoctions of them looſen the belly, promote urine, and ſtand recommended in hydropic caſes.

The flowers are ſaid to prove cathartic in decoction, and emetic in ſubſtance; though in ſome places, Lobel informs us, they are commonly uſed, and in large quantity, in ſalads, without producing any effect of this kind. The qualities of the ſeeds are little better determined: ſome report, that they purge almoſt as ſtrongly as hellebore, in the doſe of a drachm and a half; while the author above mentioned relates, that he has given a decoction of two ounces of them as a gentle emetic.

An infuſion of a drachm of well powdered and ſifted brown ſeed, for twelve hours, in a glaſs and a half of rich white wine, taken in the morning faſting, is recommended in an anonymous pamphlet as a ſovereign remedy in dropſy. The patient is afterwards to walk or ride for an hour and an half, and then to ſwallow two ounces of olive oil. This method is to be repeated every ſecond, or third day, till the cure be completed.

Broom aſhes have been long recommended in dropſies, and are particularly celebrated by Dr Sydenham. But the efficacy of this medicine depends entirely on the alkaline ſalt, and not in the ſmalleſt degree on the vegetable from which it is obtained by burning.

GENTIANA [*Lond. Ed.*] *Radix.*

Gentiana lutea Lin.

Gentian; the root.

This plant is found wild in ſome parts of England: but the dried roots are moſt commonly brought from Germany. They ſhould be choſen freſh, and of a yellow or bright gold colour within. This root is a ſtrong bitter; and as ſuch very frequently uſed in practice: in taſte it is leſs exceptionable than moſt of the other ſubſtances of this claſs. Infuſions of it, flavoured with orange-peel, are ſufficiently grateful. It is the capital ingredient in the bitter wine-tincture, and infuſion of the ſhops. An extract made from it is likewiſe an officinal preparation.

This uſeful bitter is not employed under the form of powder, as it loſes its virtue conſiderably by drying, which is requiſite for giving it that form.

A poiſonous root was ſome years ago diſcovered among ſome of the gentian brought to London; the uſe of which occaſioned violent diſorders, and in ſome inſtances death. This is eaſily diſtinguiſhable by its being internally of a white colour, and void of bitterneſs. This poiſonous ſimple ſeems to be the root of the aconitum; a plant with which Lobel informs us the inhabitants of ſome parts of the Alps uſed formerly to empoiſon darts.

GEOFFRŒA [*Ed.*] *Cortex.*

Geoffræa inermis Lin.

Cabbage tree; the bark.

The bark of this tree, which grows in the low ſavannahs of Jamaica, is of a grey colour externally, but black and furrowed on the inſide. It has a mucilaginous and ſweetiſh taſte, and a diſagreeable ſmell. It is given in caſes of worms, in form of powder, decoction, ſyrup, and extract. The decoction is preferred; and is made by ſlowly boiling an ounce of the freſh dried bark in a quart of water, till it aſſume the colour of Madeira wine. This ſweetened is the ſyrup; evaporated, it forms an extract. It commonly produces ſome ſickneſs and purging: ſometimes violent effects, as vomiting, delirium, and fever. Theſe laſt are ſaid to be owing to an over-doſe, or to drinking cold water; and are relieved by the uſe of warm water, caſtor oil, or a vegetable acid. It ſhould always be begun in ſmall doſes. When properly and cautiouſly adminiſtered, it is ſaid to operate as a very powerful anthelmintic, particularly for the expulſion of the lumbrici, which are a very common cauſe of diſeaſe in the Weſt-India iſlands; and there it is very frequently employed. But it has hitherto been little uſed in Britain.

GINSENG [*Lond. Ed.*] *Radix.*

Panax quinquefolium Lin.

Ginſeng; the root.

Ginſeng is a ſmall root; what is uſed in Britain is chiefly brought from North America: ſometimes from China; but much more frequently the American ginſeng is carried from Britain to China. Every root is an inch or two long, taper, finely ſtriated, of a whitiſh or yellowiſh colour. It has a very ſweet taſte, accompanied with a ſlight bitterneſs and warmth.

The Chineſe are ſaid to have a very extraordinary opinion of the virtues of this root, and to conſider it as an univerſal reſtorative in all decays, from age, intemperance, or diſeaſe. The great value there ſet upon it, has prevented its being exported thence into other countries, and its diſcovery in North America is but of late date; ſo that among us it has hitherto been very rarely uſed; although, from what can be judged of it from the taſte, it ſeems to deſerve ſome regard, eſpecially as it is now procurable in plenty.

GLADIOLUS. See IRIS PALUSTRIS.

GLYCYRRHIZA [*Lond. Ed.*] *Radix.*

Clycyrrhiza glabra Lin.

Liquorice; the root.

This is produced plentifully in all the countries of Europe: that which is the growth of our own is preferable to ſuch as comes from abroad. The powder of liquorice uſually ſold is often mixed with flour, and perhaps too often with ſubſtances not quite ſo wholſome: the beſt ſort is of a browniſh yellow colour, the fine pale yellow being generally ſophiſticated, and it is of a very rich ſweet taſte, much more agreeable than that of the freſh root. Liquorice is almoſt the only ſweet that quenches thirſt; whence it is called by the Greeks *adipſon* Galen takes notice, that it was employed with this intention in hydropic caſes, to prevent the neceſſity of drinking. Mr Fuller, in his *Medicina Gymnaſtica*, recommends this root as a very uſeful pectoral, and ſays it excellently ſoftens acrimonious humours, at the ſame time that it proves gently detergent: and this account is warranted by experience. It is an ingredient in ſeveral compounds. An extract is directed to be made from it in the ſhops, but this preparation is brought chiefly from abroad, though the foreign extract is not equal to ſuch as is made with proper care among ourſelves.

GRAMEN [*Suec.*] *Radix.*
Triticum repens Lin.
Quick graſs; the roots.

Graſs roots have a ſweet roughiſh taſte. They are principally recommended in aperient ſpring drinks, for what is called purifying and ſweetening the blood.

GRANA PARADISI [*Brun.*] *Fructus.*
Amomum Granum paradiſi Lin.
Grains of paradiſe.

The fruit known by this name is brought from the Eaſt-Indies. It is about the ſize of a fig, divided internally into three cells, in each of which are contained two rows of ſmall ſeeds like cardamoms. Theſe ſeeds are ſomewhat more grateful, and conſiderably more pungent, than the common cardamoms, approaching in this reſpect to pepper, with which they agree alſo in their pharmaceutical properties; their pungency reſiding, not in the diſtilled oil, as that of cardamoms does, but in the reſin extracted by ſpirit of wine.

GRANATUM [*Lond.*] *Floris petalum*, Balauſtium *dictum*, *Fructus Cortex.*
GRANATA MALUS [*Ed.*] *Cortex Fructus*, *Flores pleni* Balauſtia *dicti.*
Punica Granatum Lin.
Pomegranate; the flowers called *balauſtine*, and rind of the fruit.

The pomegranate is a low tree, or rather ſhrub, growing wild in Italy and other countries in the ſouth of Europe: it is ſometimes met with in our gardens; but the fruit, for which it is chiefly valued, rarely comes to ſuch perfection as in warmer climates. This fruit has the general qualities of the other ſweet ſummer fruits, allaying heat, quenching thirſt, and gently looſening the belly. The rind is a ſtrong aſtringent, and as ſuch is occaſionally uſed. The flowers are of an elegant red colour, in appearance reſembling a dried red roſe. Their taſte is bitteriſh and aſtringent. They are recommended in diarrhœas, dyſenteries, and other caſes where aſtringent medicines are proper.

GRATIOLA [*Lond. Ed.*] *Herba.*
Gratiola officinalis Lin.
Hedge hyſſop; the leaves.

This is a ſmall plant, met with among us, only in gardens. The leaves have a very bitter, diſagreeable taſte; an infuſion of a handful of them when freſh, or a drachm when dried, is ſaid to operate ſtrongly as a cathartic. Kramer reports, that he has found the *root* of this plant a medicine ſimilar in virtue to ipecacuanha.

This herb has been mentioned as uſeful in the venereal diſeaſe: and it has been highly extolled in maniacal caſes.

GUAIACUM [*Lond. Ed.*] *Lignum, cortex, gummi reſina.*
Guaiacum officinale Lin.
Guaiacum; its wood, bark, and reſin.

The guaiacum is a tree growing

in the warmer parts of the Spaniſh Weſt Indies.

The wood is very ponderous, of a cloſe compact texture; the outer part is of a yellow colour, the heart of a deep blackiſh green, or variegated with black, green, pale, and brown colours: the bark is thin, ſmooth, externally of a dark greyiſh hue: both have a ſlightly aromatic, bitteriſh, pungent taſte; the bark is ſomewhat the weakeſt. The reſin which exudes from inciſions made in the trunk of the tree is brought to us in irregular maſſes, uſually friable, of a duſky greeniſh, and ſometimes of a reddiſh caſt, with pieces of the wood among them: its taſte is more acrid and pungent than that of the wood or bark.

Their general virtues are thoſe of a warm ſtimulating medicine: they ſtrengthen the ſtomach and other viſcera; and remarkably promote the urinary and cuticular diſcharges; hence in cutaneous defedations, and other diſorders proceeding from obſtructions of the excretory glands, they are eminently uſeful: rheumatic and other pains have often been relieved by them. The reſin is the moſt active part, and the efficacy of the wood and bark depends on the quantity of the reſin contained in them: the reſin is extracted from the wood in part by watery liquors, but much more perfectly by ſpirituous ones; the reſin is given from a few grains to a ſcruple, or half a drachm, which laſt doſe proves for the moſt part conſiderably purgative. The officinal preparations of guaiacum are a ſolution of the gum in rectified ſpirit of wine, and a ſolution in volatile ſpirit.

Guaiacum in decoction has been ſaid to cure the venereal diſeaſe; and in this country it is frequently uſed as an adjuvant to mercury. The reſin diſſolved in rum, or combined with water, by means of mucilage or the yolk of egg, or in the form of the volatile tincture or elixir, is much employed in gout and chronic rheumatiſm. The tincture has been given to the extent of half an ounce twice a-day, and is ſometimes uſefully combined with laudanum.

GUMMI AMMONIACUM. See AMMONIACUM.

GUMMI ARABICUM. See ARABICA.

GUMMI ELEMI. See ELEMI.

GUMMI TRAGACANTHA. See TRAGACANTHA.

GUTTAGAMBA. See GAMBOGIA.

HÆMATITES *Lapis* [*Brun.*]
Hæmatites, or bloodſtone.

This is an elegant iron ore, extremely hard, of a dark reddiſh or yellowiſh colour: it is found either along with other ores of iron, or in diſtinct mines by itſelf. Its medical virtues do not vary from thoſe of ruſt, and the common croci of iron, notwithſtanding the extraordinary opinion which many have entertained of it; ſuch as its curing ulcers of the lungs, which Geoffroy ſays the hæmatites dries and heals.

HÆMATOXYLUM [*Lond.*] *lignum, vulgo lignum campechianum.*
LIGNUM CAMPECHENSE ſive HÆMATOXYLUM [*Edin.*] *lignum.*

Hæmatoxylum campechianum Lin.
Logwood or Campeachy wood.

This wood is brought chiefly from Campeachy in the bay of Honduras. It is uſually in large logs, very compact and hard, of a red colour, and an aſtringent ſweet taſte. It has been for a long time uſed by the dyers, but not till lately as a medicine; a decoction of it, and the extract, are uſed in our hoſpitals, and are ſaid to have proved very ſerviceable in diarrhœa. It frequently tinges the ſtools, and ſometimes the urine. The extract is now received into the ſhops; and it is found to be a very uſeful aſtringent.

HEDERA ARBOREA

[*Brun.*] *Folia, reſina.*
Hedera Helix Lin.
Ivy; the leaves and reſin.

This is a climbing ſhrubby plant, growing commonly on the trunks of trees, or on old walls. The leaves have rarely been given internally: notwithſtanding they are ſtrongly recommended againſt the atrophy of children; their taſte is nauſeous, acrid, and bitter. Externally, they have ſometimes been employed for drying and healing ichorous ſores, and for keeping iſſues open. The berries were ſuppoſed by the antients to have a purgative and emetic quality; later writers have recommended them in ſmall doſes, as diaphoretics and alexipharmics; and Mr Boyle tells us, that, in the London plague, the powder of them was given in vinegar with good ſucceſs, as a ſudorific. It is probable the virtue of the compoſition was rather owing to the vinegar than to the powder. The reſin was ranked by the antients (if their *δακρυον τȣ κισσȣ* was the ſame with our *gummi hederæ*) among the depilatories.

HEDERA TERRESTRIS

[*Ed.*] *Herba.*
Glechoma hederacea Lin.
Ground ivy; the leaves.

Ground-ivy is a low plant, frequent in hedges and ſhady places. It has an aromatic though not very agreeable ſmell; and a quick, bitteriſh, warm, taſte. This herb is an uſeful corroborant, aperient, and detergent; and hence ſtands recommended againſt laxity, debility, and obſtructions of the viſcera: it was extolled for cleanſing and healing ulcers of the internal parts, even of the lungs; and for purifying the blood. It is cuſtomary to infuſe the dried leaves in malt liquors; a practice nor to be commended, though it readily communicates its virtues to them, and helps to fine them down: ſcarce any other herb has this effect more remarkably than ground ivy.

HELLENIUM. See ENULA CAMPANA.

HELLEBORASTER

[*Lond.*] *Folium.*
Helleborus fœtidus Lin.
Bears foot; the leaves.

The leaves of this plant, taken in ſeveral different forms, have been recommended as a very powerful anthelmintic. They are particularly extolled by Dr Biſſet in his Eſſay on the Medical Conſtitution of Great Britain, eſpecially under the form of ſyrup, made by moiſtening the leaves of the freſh herb in vinegar, and then preſſing out their juice, which is formed into a ſyrup with coarſe ſugar. Of this ſyrup, Dr Biſſet gave to children from two to ſix years of age, one tea ſpoonful at bed-time and another in the morning, for two or three days ſucceſſively. The doſe was increaſed or diminiſhed, according to the ſtrength of the patient. And in this way he found it very ſucceſsful in the expulſion of lumbrici.

Where the helleboraſter is to be employed, this form is perhaps the beſt, and it may ſucceed where others have failed ; but it ſhould not be employed till ſafer anthelmintics have been tried in vain : for the imprudent adminiſtration of it has been ſometimes attended with fatal conſequences.

HELLEBORUS ALBUS [*Lond.*] *Radix*

VERATRUM [*Ed.*] *Helleborus albus*, *Radix*.

Veratrum album Lin.

White hellebore ; the root.

This plant grows ſpontaneouſly in Switzerland and the mountainous parts of Germany. The root has a nauſeous, bitteriſh, acrid taſte, burning the mouth and fauces : if wounded when freſh, it emits an extremely acrimonious juice, which mixed with the blood, by a wound, is ſaid to prove very dangerous : the powder of the dry root, applied to an iſſue, occaſions violent purging ; ſnuffed up the noſe, it proves a ſtrong, and not always a ſafe ſternutatory. Taken internally it acts with extreme violence as an emetic, and has been obſerved, even in a ſmall doſe, to occaſion convulſions, and other terrible diſorders The antients ſometimes employed it in very obſtinate caſes, and always made it their laſt reſource. Modern practice ſeems to have almoſt entirely rejected its internal uſe, though ſome practitioners have lately ventured on ſo large a doſe as a ſcruple, in maniacal caſes, and have found good effects from it after the ſtronger antimonial preparations had been given in vain. A tincture and honey of it were formerly kept in the ſhops, but are now rejected from the London pharmacopœia. The former is ſtill retained by the Edinburgh college, but it is very rarely, if ever, uſed.

HELLEBORUS NIGER [*Lond.*] *Radix*.

MELAMPODIUM [*Edin.*] *Radix*.

Helleborus niger Lin.

Black hellebore, or melampodium ; the roots.

This plant grows wild in the mountainous parts of Switzerland, and Auſtria : the earlineſs of its flowers, which ſometimes appear in December, has gained it a place in our gardens.

In ſome parts of Germany, a ſpecies of black hellebore has been uſed, which frequently produced violent, and ſometimes deleterious effects : this the Wirtemberg college particularly caution againſt, though without mentioning any marks by which it may be diſtinguiſhed, or even giving the preciſe name of the plant. It appears to be the *Helleboraſter* above deſcribed, whoſe roots are paler than thoſe of the black hellebore. The roots of the poiſonous aconites reſemble in appearance thoſe of the black hellebore ; and in the Breſlaw collections we find ſome inſtances of fatal effects occaſioned by miſtaking the one for the other : theſe alſo are happily diſtinguiſhable by their colour ; the *aconitum* being lighter coloured than even the paleſt of the black hellebores.

The taſte of hellebore is acrid and bitter. Its acrimony, as Dr Grew obſerves, is firſt felt on the tip of the tongue, and then ſpreads immediately to the middle, without being much perceived on the intermediate part; on chewing it for a few minutes, the tongue ſeems benumbed, and affected with a kind of paralytic ſtupor, as when burnt by eating any thing too hot: the fibres are more acrimonious than the head of the root from which they iſſue. Black hellebore root, taken in doſes of from fifteen grains to half a drachm, proves a ſtrong cathartic: and as ſuch has been celebrated for the cure of maniacal, and other diſorders proceeding from what the antients called *atra bilis*. It does not however appear, that our black hellebore acts with ſo much violence as that of the antients: whence many have ſuppoſed it to be a different plant; and indeed the deſcriptions which the antients have left us of their hellebore, do not agree with any of the ſorts uſually noticed by modern botaniſts. Another ſpecies has been diſcovered in the eaſtern countries, which Tournefort diſtinguiſhes by the name of *helleborus niger orientalis, ampliſſimo folio, caule præalto, flore purpuraſcente;* and he ſuppoſes it to be the true antient hellebore, from its growing about Mount Olympus, and in the iſland of Anticyra, celebrated of old for the production of this antimaniacal drug: he relates, that a ſcruple of this ſort, given for a doſe, occaſioned convulſions.

Our hellebore is at preſent principally conſidered as an alterative: and is frequently employed, in ſmall doſes, for promoting the uterine and urinary diſcharges, and opening inveterate obſtructions of the glands: it often proves a very powerful emennagogue in plethoric habits, where ſteel is ineffectual or improper. An extract made from this root with water, is one of the mildeſt, and for the purpoſes of a cathartic the moſt effectual preparation of it, operating ſufficiently, without occaſioning the irritation which the pure reſin does. A tincture drawn with proof ſpirit contains the whole virtue of the hellebore, and ſeems to be one of the beſt preparations of it when deſigned for an alterative: this tincture and the extract, are kept in the ſhops.

The melampodium is the baſis of Becher's tonic pills for the dropſy. The root is ordered to be macerated in rectified ſpirit of wine, the liquor expreſſed is repeatedly mixed with water and duly evaporated. This is made up into pills with an extract of myrrh and powder of carduus benedictus. They are ſaid to be cathartic and diuretic, and at the ſame time tonic.

HERMODACTYLUS [*Brun.*] *Radix.*

Iris tuberoſa Lin.
Hermodactil.

This is a root brought from Turkey. It is of the ſhape of a heart flatted, of a white colour, compact, yet eaſy to cut or powder; of a viſcous ſweetiſh taſte, with a ſlight degree of acrimony.

Hermodactils were of great repute among the antients as a cathartic: but thoſe we now meet with in the ſhops have very little purgative virtue; Neumann declares he never found them to have any effect at all.

HIPPOCASTANUM [*Ed.*] *Fructus.*

Æſculus Hippocaſtanum Lin.
Horſe-cheſnut; the fruit.

This fruit has been uſed as food for ſheep and poultry, and as ſope for waſhing. It was much employed in powder as a ſternutatory by an itinerant oculiſt, and has been recommended by ſome others in certain ſtates of ophthalmia, headach, &c. in which errhines are indicated.

Its effects as a ſternutatory may alſo be obtained by uſing it under the form of infuſion or decoction drawn up into the noſtrils. It is entirely with a view to its errhine power that it is now introduced into the pharmacopœia of the Edinburgh college. The bark has alſo been repreſented as a cure for intermittent fevers; and it is probably with this intention that this part of the hippocaſtanum is introduced as an officinal article into the Pharmacopœia Roſſica.

HORDEUM [*Lond. Ed.*] *Semen, omni cortici nudatum.*
Hordeum diſtichon Lin.
Barley, and pearl barley.

Barley is a well-known farinaceous grain. Pear-barley is prepared by grinding the ſhell barley into little round granules, which appear of a kind of pearly whiteneſs.

Barley, in its ſeveral ſtates, is more cooling, leſs glutinous, and leſs nutritious, than wheat or oats: among the antients, decoctions of it were the principal aliment and medicine in acute diſeaſes. Both a ſimple and compound decoction of barley are introduced into our pharmacopœias.

HORMINUM SATIVUM [*Brun.*] *Herba.*
Horminum Salvia Lin.
Garden clary; the leaves and ſeeds.

Theſe have a warm, bitteriſh pungent taſte; and a ſtrong, not very agreeable ſmell: the touch diſcovers in the leaves a large quantity of glutinous or reſinous matter. They are principally recommended in the fluor albus, and other female weakneſſes, in hyſteric diſorders, and in flatulent colics.

HYDRARGYRUS, ſive ARGENTUM VIVUM. [*Lond. Ed.*]
Mercury, or quickſilver,

Mercury is an opaque ſilver-coloured mineral fluid; appearing to the eye like tin or lead when melted: it is 15 times heavier than water; it remains fluid in great degrees of cold, and congeals at 40 degrees below 0 of Fahrenheit's ſcale. In the fire it proves totally volatile. This mineral is either met with in its fluid form in the earth; or extracted by art from certain ores. There are conſiderable mines of it in Hungary and Spain. What is employed in Britain comes chiefly from Hungary.

The uſe of mercury in medicine ſeems to have been little known before the fifteenth century. The antients conſidered it as a corroſive poiſon, though of itſelf perfectly void of acrimony, taſte, and ſmell: there are examples of its having been lodged, for years, in cavities both of bones and fleſhy parts, without its having injured or affected them. Taken into the body in its crude ſtate, and undivided, it paſſes through the inteſtines unchanged, and has not been found to produce any conſiderable effect. It has indeed been recommended in aſthmas and diſorders of the lungs; but the virtues attributed to it in theſe caſes have not been warranted by experience.

Notwithſtanding the mildneſs and inactivity of crude quickſilver undivided; yet when reſolved by fire into the form of fume, or otherwiſe divided into very minute particles, and prevented from re-uniting by the interpoſition of proper ſubſtances, or when it is combined with mineral acids, it has very powerful effects; affording the moſt violent poiſons, and the moſt excellent remedies with which we are acquainted.

The mercurial preparations, either given internally or introduced into the habit by external application, ſeem to forward circulation through even the minuteſt and moſt remote veſſels of the body; and may be ſo managed as to promote all the excretions through the emunctories. Hence their common uſe in inveterate chronic diſorders, and obſtinate obſtructions of the excretory glands; in cutaneous diſeaſes; and in the venereal lues. If their power be not reſtrained to certain emunctories, they tend chiefly to affect the mouth; and occaſion a plentiful evacuation from the ſalival glands.

The ſalutary effects of mercurials do not depend on the quantity of ſenſible evacuation. This medicine may be gradually introduced into the habit, ſo as, without occaſioning any remarkable diſcharge, to be productive of very happy effects. To anſwer this purpoſe, it ſhould be given in very ſmall doſes, in conjunction with ſuch ſubſtances as determine its action to the kidneys or the pores of the ſkin. By this method inveterate cutaneous and venereal diſtempers have been cured. without any other ſenſible excretion than a gentle increaſe of perſpiration or urine. Ulcers which diſcharge for ſome time a very fetid matter, diſcharge gradually leſs, and at length kindly heal, by a long continued uſe of mercury, If the mercury ſhould at any time, from cold, or the like, affect the mouth, it may be reſtrained by omitting a doſe, and by warm or ſuitable medicines promoting the perſpiration. Cooling purgatives are alſo often employed with advantage; but perhaps the moſt effectual means of giving with ſafety a ſudden check to a mercurial ſalivation is by the application of a large bliſter to the back.

Mercury, as uſed in medicine, has been employed in a very great variety of forms. Of the preparations directed by the London and Edinburgh colleges, we ſhall afterwards treat in particular: but to give a full and comprehenſive view of them we ſhall here ſubjoin Dr Black's table in which they are ſyſtematically arranged.

Quickſilver is prepared for medical purpoſes,

I. By diſtillation, in order to procure it pure.

Hydrargyrus purificatus. Lond.

II. By triture, that it may be exquiſitely divided.

Pilulæ Hydrargyri. Ed. et Lond.
Hydrargyrus cum creta. Lond.
Emplaſtrum Hydrargyri, ſive cærul. Ed.
Emplaſtrum Lithargyri cum Hydrargyro. Lond.

Emplaſtrum Ammoniaci cum Hydrargyro. Lond.
Unguentum Hydrargyri, ſive cærul. Ed.
Unguentum Hydrargyri fortius et mitius. Lond.

III. By calcination, or the joint action of heat and air.

Hydrargyrus calcinatus.
Vulgo, *Mercurius præcipitatus per ſe.*

IV. By the action of ſaline ſubſtances.

1. With the Vitriolic acid.

Hydrargyrus vitriolatus flavus, vulgo Turpethum minerale. Ed.
Hydrargyrus vitriolatus. Lond.

2. With the Nitrous acid.

Unguentum Hydrargyri nitrati. Ed. et Lond.
Hydrargyrus nitratus ruber. Ed. et Lond.

3. With the Muriatic acid.

Hydrargyrus muriatus corroſivus Ed.
Hydrargyrus muriatus. Lond.
Hydrargyrus muriatus mitis. Ed.
Calomelas. Lond.
Hydrargyrus muriatus præcipitatus. Ed.
Hydrargyrus muriatus mitis. Lond.

4. With the Acetous acid or Vinegar.

Hydrargyrus acetatus. Ed. et Lond.
Pilulæ Keyſeri.

5. Precipitated by means of alkalies from its ſolution in acids.

Hydrargyrus præcipitatus cinereus. Ed.
Mercurius præcipitatus fuſcus.
Calx hydragyri alba. Lond.
Unguentum Calcis Hydrargyri albæ. Lond.

V. Combined with Sulphur.

Hydrargyrus ſulphuratus niger. Ed.
Hydrargyrus cum Sulphure. Lond.
Hydrargyrus ſulphuratus ruber. Lond.
Pilulæ Hydrargyri muriati mitis, ſive Calomelanos, compoſitæ. Ed.

Notwithſtanding this great number of mercurial preparations, which however is ſmall when compared with thoſe in ſome of the foreign pharmacopœias, or in our own old ones, every uſeful purpoſe to be anſwered by mercury may be obtained from a very few. The mercurial preparations in general, may be divided into two great claſſes, the mild and acrid. Every purpoſe to be anſwered by the former, may be accompliſhed by the *Unguentum hydragyri* and *Pilulæ hydrargyri* of the London and Edinburgh pharmacopœias; while the effects to be obtained from the latter may be derived from Calomel and Corroſive Sublimate Mercury.

The marks of pure mercury are, its globules not loſing their ſpherical figure when poured on wood; its not communicating a tinge to water, or ſweetneſs to vinegar, when rubbed with them; its evaporating entirely in an iron ſpoon over the fire; and its having a ſhining appearance without any pellicle on its ſurface. Mercury is beſt purified by diſtillation in an iron pot, with a long neck whoſe end is immerſed in water.

Quickſilver has ſometimes been uſed in its pure metallic ſtate, with a view of removing obſtruction in the alimentary canal, from an idea that it would operate by its weight. But it is ſeldom attended ed with good effects, and ſometimes it does harm.

An immenſe number of volumes have been written reſpecting its operation and uſe in different diſeaſes, and particularly in venereal affections. Some authors refer its operation to an evacuant power, others to its operating as a peculiar ſtimulus, and others to its poſſeſſing a power of deſtroying or neutraliſing the venereal virus. Of theſe opinions, the laſt is the moſt generally received, and perhaps the beſt founded.

In virulent gonorrhœa, it is doubted whether mercury be neceſſary. This diſeaſe is commonly treated like any ſimilar inflammation; and the chief things attended to are cleanlineſs of the parts, a regular belly, and an abſtinence from every thing ſtimulant in food, drink, &c. An injection of oil with calomel, or white precipitate, is much uſed, and ſome prefer a watery ſolution of opium. The more active injections have ſometimes very diſagreeable conſequences.

When the conſtitution is affected, which is known by ulcers on the glans, buboes, ulcers in the mouth or throat, copper coloured ſpots and ulcers on the ſurface, nodes, &c. mercury is thrown into the body either by friction or by the mouth. The general rule is, to keep up a ſlight ſoreneſs of the gums for ſome ſhort time after the ſymptoms diſappear; at the ſame time it is to be remembered, that mercury ſometimes continues gleets, and induces ulcers, that are difficultly diſtinguiſhed from venereal ones; and that theſe laſt only yield to warm bathing, diaphoretic diluents, opiates, country air, and milk diet. Corroſive ſublimate is ſometimes uſed, as more ſpeedily arreſting diſagreeable, ſpreading, or dangerous ulcers; but the completion of the cure ſhould always be truſted to the mild preparations alone. Mercury is alſo uſed in rabies canina, in worms, in hydrocephalus internus, in tetanus, and is conſidered as an antidote to the variolous matter.

HYDROLAPATHUM [*Ed.*] *Radix.*

Rumex aquaticus Lin.

Water-dock; the root.

The leaves of this dock gently looſen the belly, and have ſometimes entered decoctions for removing a coſtive habit. The roots manifeſt to the taſte a conſiderable aſtringency; they form an ink with iron, and are celebrated for the cure of ſcorbutic and cutaneous diſorders, either exhibited internally, or applied externally in ointments, cataplaſms, lotions, and fomentations. Muntingius publiſhed a treatiſe on this plant in 1681, in which he endeavours to prove, that our great water dock is the *herba Britannica* of the antients. He therefore aſcribes to the hydrolapathum all the virtues attributed to the *Herba Britannica*, particularly recommending it againſt ſcurvy and all its ſymptoms.

HYOSCYAMUS [*Ed.*] *Herba, ſemen.*

Hyoſcyamus niger Lin.

Common black henbane; the herb and ſeeds.

This vegetable grows in great abundance in moſt parts of Britain: it has long been conſidered as one of the moſt deleterious poiſons; but it nevertheleſs proves on many occaſions a very uſeful medicine. The London college have given it no place in their liſt, and yet ſome of the London practitioners mention it as a remedy which they frequently employ with much benefit.

The ſmell of the hyoſcyamus is ſtrong and peculiar; and the leaves when bruiſed ſmell like tobacco. This ſmell is ſtill ſtronger when the leaves are burnt; and on burning they ſparkle with a deflagration ſomewhat reſembling that of nitre; but to the taſte they ſhew no evident ſaline impregnation. When chewed, they are inſipid, mild, and mucilaginous; yet when taken to any great extent, they produce the moſt alarming effects. They give the appearances of intoxication, attended with delirium, remarkable dilatation of the pupils of the eyes, and convulſions. Hyoſcyamus often produces ſweat, and ſometimes an eruption of puſtules over the ſurface, and generally ſound ſleep, ſucceeded by ſerenity of mind and recruited vigour of the body: but like the other narcotics, it often gives riſe to vertigo, headach, and general uneaſineſs. It ſometimes occaſions vomiting, colic pains, a copious flow of urine, and purging. On the whole, like opium, it is a powerful anodyne; and like cicuta is free from any conſtipating effect, having rather a tendency to move the belly.

From theſe effects it is not ſurpriſing that hyoſcyamus ſhould have been introduced into the practice of medicine; and accordingly, it appears to have been uſed both externally and internally for a variety of purpoſes. Several different ſpecies of the hyoſcyamus were formerly employed, as appears from the writings of Dioſcorides and others. Celſus, in particular, was very fond of this medicine; he uſed it externally as a collyrium in caſes of ophthalmia: he employed it topically for allaying the pain of toothach; and he gave it internally, both with the view of mitigating other pains and of producing quiet ſleep.

For a conſiderable length of time, however, hyoſcyamus fell almoſt into diſuſe; but the employment of it has of late been revived by Dr Stoerk of Vienna; and it has been uſed both by him, and by many other practitioners in thoſe caſes where an anodyne is requiſite, and where an objection occurs to the uſe of opium. It is employed for reſolving ſwelling, and allaying pain in caſes of ſcirrhus, under the form of cataplaſm of the leaves, or of a plaſter made from the oil of the ſeeds and powder of the herb, with wax, turpentine, and other articles; or of ointment made of the powder of the leaves with hog's lard. In open ulcers the powder of the leaves ſprinkled on the part has often a good effect.

An extract from the leaves or from the ſeeds is the form in which it is given internally; but contrary to what happens with cicuta, the former appears to be the moſt powerful. This extract has been given with advantage in a variety of nervous affections, as mania, melancholia, epilepſy, hyſteria, &c. in glandular ſwellings, in obſtinate ulcerations; and in every caſe where it is neceſſary either to allay inordinate action or mitigate pain. In accompliſhing theſe ends, it is often no leſs uſeful than opium; and it frequently ſucceeds where opium produces very diſagreeable effects. The doſe of this extract muſt be accommodated to the circumſtances of the caſe and the patient; and it has been increaſed from half a grain to half a drachm in the day; for, like opium, its influence is very much diminiſhed by habit.

HYPERICUM [*Lond*] *Flos.*
Hypericum perforatum Lin.
St John's wort; the flowers.

This plant grows wild in woods and uncultivated places through Britain. Its taſte is rough and bitteriſh, and its ſmell diſagreeable. It abounds with an eſſential oil, which is contained in ſmall veſicles in the growing plant. Theſe veſicles, when viewed, by holding the plant between the eye and the light, reſemble perforations; and the eſſential oil may be ſeparated in conſiderable quantities by diſtillation. Hence there can be little doubt that it poſſeſſes active principles. At one period it was much employed, and highly celebrated as a corroborant, diuretic, and vulnerary; particularly in hyſterical and maniacal diſorders. It was even reckoned of ſuch efficacy as to have received the name of *fuga dæmonum;* but for theſe extraordinary virtues there is probably not much foundation; and of late it has been ſo much neglected as even to lead to its omiſſion in the two laſt editions of the Edinburgh Pharmacopœia.

This plant, however, is probably not without activity; and it is remarkable that the flowery tops tinge expreſſed oils of a red colour, which very few vegetable ſubſtances do, and communicate a blood red to rectified ſpirit.

HYSSOPUS [*Ed.*] *Herba.*
Hyſſopus officinalis Lin.
Hyſſop; the herb.

The leaves of hyſſop have an aromatic ſmell, and a warm, pungent taſte. Beſides, the general virtues of aromatics they are particularly recommended in humoral aſthmas, coughs, and other diſorders of the breaſt and lungs; and are ſaid to promote expectoration; but ſo little dependence is put upon any property of this kind that hyſſop has now no place in the pharmacopœia of the London college.

JALAPIUM [*Lond*] *Radix.*
JALAPA [*Ed.*] *Radix.*
Convolvulus jalapa Lin.
Jalap; the root.

Jalap is the root of an American plant, brought to us in thin tranſverſe ſlices from Xalpa, a province of New Spain. The botanical characters of the vegetable which furniſhes it are not abſolutely aſcertained; hence the London college have given it no Linnæan name. But in the opinion of the beſt botaniſts it belongs to the genus of convolvulus as ſtated by the Edinburgh College.

Such pieces ſhould be choſen as are moſt compact, hard, weighty, dark-coloured, and abound moſt with black circular ſtriæ. Slices of bryony root are ſaid to be ſometimes mixed with jalap: theſe may be eaſily diſtinguiſhed by their whiter colour, and leſs compact texture.

Jalap in ſubſtance, taken in a doſe of about half a drachm (leſs or more, according to the circumſtances of the patient) is an effectual, and in general a ſafe purgative, performing its office mildly ſeldom occaſioning nauſea or gripes, which too frequently accompany the other ſtrong cathartics In hypochondriacal diſorders, and hot bilious temperaments, it gripes violently, but rarely takes due effect as a purge. An extract made by water purges almoſt univerſally, but weakly; and at the ſame time has a conſiderable effect by urine: the root remaining after this proceſs gripes violently. The pure reſin, prepared by ſpirit of wine, occaſions, if taken alone, moſt violent gripings, and other diſtreſſing ſymptoms, but ſcarcely proves at all cathartic: triturated with ſugar, or with almonds into the form of an emulſion, or diſſolved in ſpirit and mixed with ſyrups, it purges plentifully in a ſmall doſe, without occaſioning much diſorder: the part of the jalap remaining after the ſeparation of the reſin, yields to water an extract, which has no effect as a cathartic, but operates powerfully by urine. The officinal preparations of Jalap are extracts made with water and ſpirit, a ſimple tincture, and a compound powder.

Frederick Hoffman particularly cautions againſt giving this medicine to children; and aſſures us, that it will deſtroy appetite, weaken the body, and perhaps occaſion even death. In this point, this celebrated practitioner was probably deceived; children, whoſe veſſels are lax, and the food ſoft and lubricating, bear theſe kinds of medicines, as Geoffroy obſerves, better than adults; and accordingly inoculators make much uſe of the powder mixed with ſimple ſyrup. The compound powder is employed in dropſy, as a hydragogue purge; and where ſtimulus is not contraindicated, jalap is conſidered as a ſafe cathartic.

JAPONICA TERRA. See CATECHU.

JASMINUM [*Brun.*] *Flos.*

Jaſminum officinale Lin

Jaſmine; the flower.

This is a ſmall tree, commonly planted in our gardens. The flowers have a ſtrong agreeable ſmell; expreſſed oils extract their fragrance by infuſion; and water elevates ſome of it in diſtillation, but no eſſential oil has hitherto been obtained from them: the diſtilled water, kept for a little time loſes its odour. The medical virtues of theſe flowers are doubtful, although they have been recommended for promoting delivery, curing ulcerations of the uterus, &c.

ICHTHYOCOLLA [*Lond.*]

Iſing-glaſs, or fiſh-glue.

This is a glutinous ſubſtance, obtained from different kinds of fiſh caught in the ſeas of Muſcovy. The ſkin and ſome other parts of the animal are boiled in water, the decoction is inſpiſſated to a proper conſiſtence, and then poured out ſo as to form thin cakes; theſe are either farther exſiccated till perfectly dry, or cut while ſoft into ſlices, which are afterwards bent, or rolled up into ſpiral, horſeſhoe, and other ſhapes. This glue is more employed for mechanical purpoſes than in medicine. It may be given in the ſame manner as the vegetable gums and mucilages; regard being had to their different diſpoſition to putreſcence.

It is alſo ſometimes employed externally, with a view to its action as a glue.

IMPERATORIA [*Ed.*] *Radix.*

Imperatoria Oſtruthium Lin.

Maſterwort; the root.

This is a native of the Alps and Pyrenean mountains, and ſome parts of Germany, from whence we are ſupplied with roots ſuperior in aromatic flavour to thoſe raiſed in our gardens. The odour of this root is very fragrant; its taſte bitteriſh, warm, and pungent, glowing in the mouth for a long time after it has been chewed. Though undoubtedly an elegant aromatic, it is not regarded in the preſent practice; and accordingly it has no place in the London pharmacopœia.

IPECACUANHA [*Lond. Ed.*] *Radix.*

Ipecacuanh; the root.

The vegetable from which this root is obtained is not with certainty determined, any more than that of jalap.

The root is brought from the Spaniſh Weſt Indies. It is divided into two ſorts, Peruvian and Brazilian: but the eye diſtinguiſhes three, aſh-coloured or grey, brown, and white. The aſh-coloured, or Peruvian ipecacuanh of the ſhops, is a ſmall wrinkled root, bent and contorted into a great variety of figures, brought over in ſhort pieces full of wrinkles and deep circular fiſſures, quite down to a ſmall white woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, looks ſmooth, and reſinous upon breaking: it has very little ſmell; the taſte is bitteriſh and ſubacrid, covering the tongue as it were with a kind of mucilage. The brown is ſmall, and ſomewhat more wrinkled than the foregoing; of a brown or blackiſh colour without, and white within; this is brought from Brazil. The white ſort is woody, has no wrinkles, and no perceptible bitterneſs in taſte. The firſt ſort, the aſh-coloured or grey ipecacuanh, is that uſually preferred for medicinal uſe. The brown has been ſometimes obſerved, even in a ſmall doſe, to produce violent effects. The white, though taken in a large one, has ſcarcely any effect at all; Mr Geoffroy calls this ſort baſtard ipecacuanh, and complains that it is an impoſition upon the public. Geoffroy, Neumann, Dale, and Sir Hans Sloane inform us, that the roots of a kind of apocynum (dogs-bane) are too frequently brought over inſtead of it; and inſtances are given of ill conſequences attending the uſe of theſe roots. If the marks above laid down, particularly the aſh-colour, brittleneſs, deep wrinkles, and bitteriſh taſte, be carefully attended to, all miſtakes of this kind may be prevented.

Ipecacuanh was firſt brought into Europe about the middle of laſt century, and an account of it publiſhed about the ſame time by Piſo; but it did not come into general uſe, till about the year 1686, when Helvetius, under the patronage of Lewis XIV. introduced it into practice. This root is one of the mildeſt and ſafeſt emetics with which we are acquainted; and has this peculiar advantage, that if it ſhould not operate by vomit, it paſſes off by the other emunctories. It was introduced among us with the character of an almoſt infallible remedy in dyſenteries, and other inveterate fluxes; in menorrhagia and leucorrhœa; and in diſorders proceeding from obſtructions of long ſtanding: nor has it loſt its reputation by time. In dyſenteries, it almoſt always produces happy effects, and often performs a ſpeedy cure. In other fluxes of the belly, in beginning dyſenteries, and ſuch as are of a malignant kind, or where the patient breathes a tainted air, it has not been found equally ſucceſsful: in theſe caſes it is neceſſary to continue its uſe for ſeveral days, and to join it with opiates, and diaphoretics. This root, given in ſubſtance, is as effectual, if not more ſo, than any of its preparations: the pure reſin acts as a ſtrong irritating emetic, but is of little ſervice in dyſenteries; while an extract prepared with water is almoſt of an equal ſervice in theſe caſes with the root itſelf, though it has little effect as an emetic. Geoffroy concludes from hence, that the chief virtue of ipecacuanh in dyſenteries, depends upon its gummy ſubſtance, which lining the inteſtines with a ſoft mucilage, when their own mucus has been abraded, occaſions their exulcerations to heal, and defends them from the acrimony of the juices: and that the reſinous part, in which the emetic quality reſides, is required, where the morbific matter is lodged in the glands of the ſtomach and inteſtines. But if the virtues of this root were entirely owing to its mucilaginous or gummy part, pure gums, or mucilages, might be employed to equal advantage. Water, aſſiſted by a boiling heat, takes up from all vegetables a conſiderable portion of reſinous along with the gummy matter: if the ipecacuanh remaining after the action of water be digeſted with pure ſpirit, it will not yield half ſo much reſin as at firſt; ſo that the aqueous extract differs from the crude root only in degree, being proportionally leſs reſinous, and having leſs effect, both as an emetic, and in the cure of dyſenteries. The virtues of ipecacuanh, in this diſorder, depend upon its promoting perſpiration, the freedom of which is here of the utmoſt importance, and an increaſe of which, even in healthy perſons, is generally obſerved to ſuppreſs the evacuation by ſtool. In dyſenteries, the ſkin is for the moſt part dry and tenſe, and perſpiration obſtructed: the common diaphoretics paſs off without effect through the inteſtinal canal: but ipecacuanh, if the patient after a puke or two be covered up warm, brings on a plentiful ſweat. After the removal of the dyſentery, it is neceſſary to continue the uſe of the medicine for ſome time longer, in order to prevent a relapſe; for this purpoſe, a few grains divided into ſeveral doſes, ſo as not to occaſion any ſenſible evacuation, may be exhibited every day; by this means the cure is effectually eſtabliſhed. And indeed ſmall doſes given, even from the beginning, have better effect in the cure of this diſeaſe than larger ones. Geoffroy informs us from his own experience, that he has obſerved ten grains of the powder to act as effectually as a ſcruple or two; and therefore confines the doſe to between ſix and ten grains; it has lately been found, that even ſmaller doſes prove ſufficiently emetic. The officinal preparations of this root are a tincture made in wine, which accordingly has now the appellation of *vinum ipecacuanhæ*, and a powder formerly called *Dover's powder*, but now named *Pulvis Ipecacuanhæ compoſitus*, both in the London and Edinburgh pharmacopœias.

Many ingenious experiments have been made on the ſubject of ipecacuanh by Dr Irvine, for which he obtained the prize medal of the

Harveian Society at Edinburgh in 1784. He has aſcertained, that this root contains a gummy reſinous matter; that the gummy exiſts in a much greater proportion than the reſinous part; that the gummy part is much more powerfully emetic than the reſinous; that the cortical is more active than the ligneous part; and that the whole root poſſeſſes conſiderable influence, both as an antiſeptic and aſtringent; that the diſtilled water has very little influence; but that the decoction which remained in the ſtill, operated violently as an emetic, produced rigours, cold ſweats, and other alarming ſymptoms; that by long continued boiling, the activity of the root is almoſt totally deſtroyed; that the emetic property of ipecacuanh was moſt effectually counteracted by means of the acetous acid; inſomuch that thirty grains of the powder taken in two ounces of vinegar, produced only ſome looſe ſtools.

Ipecacuanh, particularly in powder, is now advantageouſly employed in almoſt every diſeaſe in which full vomiting is indicated; and when combined with opium as in the *Pulvis ſudorificus*, it furniſhes us with a very uſeful and active ſweating medicine. It is alſo often given with advantage in very ſmall doſes, ſo as neither to operate by vomiting, purging, nor ſweating.

The full doſe of the powder of ipecacuanh is a ſcruple, or half a drachm, and double that in form of watery infuſion. The full doſe is recommended in the paroxyſm of ſpaſmodic aſthma, and a doſe of three or four grains every morning in habitual aſthmatic indiſpoſition. A doſe of $\frac{1}{4}$ or $\frac{1}{2}$ grain rubbed with ſugar, and given every four hours or oftener is recommended in uterine hæmorrhagy, cough, pleuriſy, hæmoptoe, &c. and has often been found highly ſerviceable.

IRIS FLORENTINA. [*Lond. Ed.*] *Radix.*

Iris florentina Lin.

Florentine orris; the root.

Several varieties of iris are cultivated in our gardens on account of the elegance of their flowers; but the Florentine orris is what is chiefly employed for medicinal purpoſes. The roots, when recent, have a bitter, acrid, nauſeous taſte, and when taken internally, prove ſtrongly cathartic; and hence the juice is recommended in dropſies, in the doſe of three or four ſcruples. By drying they loſe this quality, yet ſtill retain a ſomewhat pungent, bitteriſh taſte: their odour in this ſtate is of the aromatic kind; thoſe produced in the warmer climates have a very grateful flavour, approaching to that of March violets: hence the uſe of the Florentine orris in perfumes, and for flavouring liquors; the ſhops employ it in the *Trochiſci amyli.*

IRIS PALUSTRIS [*Ed.*] *Radix.*

Iris Pſeudacorus Lin.

Yellow water-flag; the roots.

This plant grows in great abundance by the brinks of rivers, and in other watery places: the root has an acrid taſte; and when freſh is ſtrongly cathartic. The expreſſed juice, given to the quantity of ſixty or eighty drops every hour or two, and occaſionally increaſed, has been productive of very copious evacuation, after jalap, gamboge, and other ſtrong purgatives had proved ineffectual: and in this form only it is uſed; for by drying, it entirely loſes its purgative effects. Although this article ſtill retains a place in the Edinburgh pharmacopœia, and under proper management might probably furniſh an uſeful medicine, yet it is at preſent very little employed.

JUGLANS [*Lond.*] *Fructus immaturus.*

Juglans regia Lin.

Walnut; the unripe fruit.

The kernel of the fruit is ſimilar in quality to almonds: the ſhell is aſtringent: but neither of them is at preſent much employed in medicine among Britiſh practitioners, although it ſtill retains a place in moſt of the foreign pharmacopœias, as well as in that of the London college.

JUJUBA [*Brun.*] *Baccæ.*

Rhamnus Zizyphus Lin.

Jujubes have a pleaſant ſweet taſte. They are recommended in an acrimonious ſtate of the fluids: in coughs from thin ſharp defluxions; and in heat of urine; but they are at preſent, among us, a ſtranger in medicinal practice, and even in the ſhops.

JUNIPERUS [*Lond.*] *Bacca, cacumen.* [*Ed.*] *Baccæ.*

Juniperus communis Lin.

Juniper; the berry and top.

This is an ever-green ſhrub growing on heaths and hilly grounds in all parts of Europe: the wood and reſin are not at preſent uſed for medicinal purpoſes: the berries are brought from Holland and from Italy. The Italian berries are in general reckoned the beſt.

Juniper berries have a ſtrong not diſagreeable ſmell, and a warm pungent ſweet taſte, which if they are long chewed, or previouſly well bruiſed, is followed by a bitteriſh one. The pungency ſeems to reſide in the bark; the ſweet in the juice; the aromatic flavour in oily veſicles, ſpread through the ſubſtance of the pulp, and diſtinguiſhable even by the eye; and the bitter in the ſeeds: the freſh berries yield, on expreſſion, a rich, ſweet, honey-like, aromatic juice; if previouſly pounded, ſo as to break the ſeeds, the juice proves tart and bitter.

The berries are good carminatives and ſtomachics, and are diuretic; for theſe purpoſes a compound ſpirit and eſſential oil diſtilled from them are kept in the ſhops: the liquor remaining after the diſtillation of the oil, paſſed through a ſtrainer, and gently exhaled to the conſiſtence of a rob, proves likewiſe a medicine of great utility, and in many caſes is perhaps preferable to the oil or berry itſelf. Hoffman is expreſsly of this opinion, and ſtrongly recommends it in debility of the ſtomach and inteſtines, and ſays it is particularly ſerviceable to old people who are ſubject to theſe diſorders, or who labour under a difficulty with regard to the urinary excretion. This rob is of a dark browniſh yellow colour, a balſamic ſweet taſte, with a little of the bitter, more or leſs according as the ſeeds in the berry have been more or leſs bruiſed. The beſt form under which they can be uſed, is that of a ſimple watery infuſion. This, either by itſelf or with a ſmall quantity of gin, is a very uſeful drink for hydropic patients. An infuſion of the tops has alſo been advantageouſly employed in the ſame manner.

KERMES [*Brun.*] *Grana, ſuccus.*

Coccus, quercus coccifera Lin.

Kermes; the grains.

Theſe grains appear, when freſh, full of ſmall reddiſh ovals, or animalculæ, of which they are the nidus. On expreſſion they yield a red juice, of a bitteriſh, ſomewhat rough and pungent taſte, and not an unpleaſant ſmell: this is brought to us from the ſouth of France. The grains themſelves are cured by ſprinkling them with vinegar before exſiccation: this prevents the excluſion of the ova, and kills ſuch of the animals as are already hatched; otherwiſe they change into a winged inſect, leaving the grain an empty huſk.

Kermes, conſidered as a medicine, is a grateful, mild aſtringent and corroborant. In this light it was conſidered by the Greeks: the Arabians added a cordial virtue: European writers alſo have in general recommended it for exhilarating the ſpirits, and againſt palpitations of the heart: it has alſo been particularly recommended, but without any good foundation, for promoting birth, and preventing abortion.

KINO [*Lond. Ed.*] *Gummi reſina.*

Gummi rubrum aſtringens Gambienſe. Obſ. med. Lond.

Kino; the gum-reſin.

Kino was firſt recommended to the attention of medical practitioners by Dr Fothergill, as being a very uſeful vegetable aſtringent; and in the hands of other practitioners it has been ſo far found to anſwer the character he gave of it, that it is now in very common uſe. It has a conſiderable reſemblance to the catechu; but is of a much more reſinous nature, and of a leſs firm texture: it is alſo redder and more aſtringent; its watery ſolution is more decompoſable by acids, and its ink leſs permanent. Its colouring and aſtringent matter are more perfectly taken up by ſpirit than by water, though water readily enough extracts a conſiderable ſhare of both. It is uſed as an aſtringent in diarrhœa, hæmorrhagies, &c. In proof ſpirit it forms an elegant tincture: and it is a principal ingredient in the *pulvis aluminis compoſitus*, and ſome other officinal compoſitions.

LAC [*Roſs.*]

Milk.

Milk is a ſecretion peculiar to the females of the order of mammalia. It may be conſidered as a kind of emulſion, conſiſting of butter, cheeſe, and whey; the whey containing a mucilaginous ſaccharine matter, which keeps the butter and cheeſe in union with its water; and it is from this ſugary part that milk is ſubject to the vinous fermentation, as in the Ruſſian Koumis, a vinous liquor made of mares milk, and recommended in phthiſis and caſes of weakneſs.

New milk mixes uniformly with common water, the mineral chalybeate waters, wines and malt liquors that are not acid, weak vinous ſpirits, ſolutions of ſugar, ſopes, and neutral ſalts; but not with oils expreſſed or diſtilled. Acids both mineral and vegetable coagulate it: as alſo do fixt and volatile alkalies, and highly rectified ſpirit of wine: the curd made with acids is in part reſolved again by alkaline liquors; as that made with alkalies likewiſe is by acids. Neutral ſalts, nitre in particular, preſerve it from coagulating ſpontaneouſly; and render it leſs eaſily coagulable by acids.

The human milk is the ſweeteſt of theſe liquors, and that of aſſes next to it: this laſt is the moſt dilute of them all: on ſuffering it to coagulate ſpontaneouſly, the curd ſcarcely amounted to two drachms from twelve ounces, while that of cows milk was five times as much: the coagulum of aſſes milk, even when made by acids, forms only into fine light flakes, which ſwim in the ſerum; that of goats milk concretes into more compact maſſes, which ſink.

The ſaline ſubſtance obtained from aſſes milk was white, and ſweet as ſugar; thoſe of the others brown or yellow, and conſiderably leſs ſweet; that of cows milk, the leaſt ſweat of all. It appears, therefore, that aſſes milk contains more ſerum, and much more of a ſaccharine ſaline matter than thoſe of cows and goats; and that the two latter abound moſt with unctuous groſs matter: hence theſe are found to be moſt nutritious, while the firſt proves moſt effectual as an aperient and detergent.

The quantities of Sacharine matter in four ounces of

Sheep's milk is from	35	to	37 grs.
Goats - -	47		49
Cow's - -	53		54
Woman's -	58		67
Mare's -	69		70
Aſſes -	80		82

The inſpiſſated reſiduum of milk, digeſted with about as much water as was waſted in the evaporation, yields an elegant kind of whey, more agreeable in taſte, and which keeps better than that made in the common manner, This liquor promotes the natural ſecretions in general; and, if its uſe is duly continued, does good ſervice in ſcorbutic and other diſorders.

There are conſiderable differences in the milk of the ſame animal according to its different aliment. Dioſcorides relates, that the milk of goats, who feed on ſcammony and ſpurges, proved cathartic: and examples are given in the Acta Haffnienſia of bitter milk from the animal having eaten wormwood. It is a common obſervation, that cathartics and ſpirituous liquors given to a nurſe, affect the child: and that the milk of animals feeding on green herbs, in much more dilute than when they are fed with dry ones. Hoffman, from whom moſt of the foregoing obſervations are taken, carries this point ſo far, as to direct the animal to be dieted according to the diſeaſe for which its milk is to be drank.

LACCA [*Suec.*] *Gummi reſina.*
Croton lacciferum Lin.
Lac, the gum reſin.

Lac is produced by means of an inſect of the cochineal kind. The inſect pierces the ſmall branches of the tree, and the juice which exudes from the inciſion is formed by the inſect into a nidus for its eggs; each ſeparate nidus or cell has the appearance of a ſeed.

It is brought to us, either adhering to the ſticks, or in ſmall tranſparent grains, or in ſemitranſparent flat cakes; the firſt is called *ſtick lac*, the ſecond *ſeed lac*, and the third *ſhell lac*. On breaking a piece of ſtick lac, it appears compoſed of regular cells like honeycomb, with ſmall corpuſcles of a deep red colour lodged in them:

them : theſe are the young inſects, and to theſe the lac owes its tincture ; for when freed from them, its colour is very dilute. The ſhell and ſeed lacs, which do not exhibit any inſects or cellular appearance upon breaking, are ſuppoſed to be artificial preparations of the other : the ſeed ſort is ſaid to be the ſtick lac bruiſed and robbed of its more ſoluble parts ; and the ſhell to be the ſeed lac, melted and formed into cakes. The ſtick lac therefore is the genuine ſort, and ought alone to be employed for medicinal purpoſes. This concrete is of great eſteem in Germany, and other countries, for laxity and ſpongineſs of the gums, proceeding from cold or from a ſcorbutic habit : for this uſe the lac is boiled in water, with the addition of a little alum, which promotes its ſolution : or a tincture is made from it with rectified ſpirit. The tincture is recommended alſo internally in the fluor albus, and in rheumatic and ſcorbutic diſorders : it has a grateful ſmell, and a pleaſant, bitteriſh, aſtringent taſte, The principal uſe of lac among us, is in certain mechanic arts as a colouring drug, and for making ſealing wax and varniſhes.

LACTUCA SATIVA [*Brun.*] *Folia, ſemina.*

Lactuca ſativa Lin.

Garden lettuce, the leaves and ſeeds.

The ſeveral ſorts of garden lettuces are very wholeſome, emolient, cooling ſalad herbs, eaſy of digeſtion, and ſomewhat looſening the belly. Moſt writers ſuppoſe that they have a narcotic quality ; and indeed, in many caſes, they contribute to procure reſt ; this they effect by abating heat, and relaxing the fibres.

LACTUCA VIROSA [*Ed.*] *Folia.*

Lactuca viroſa Lin.

Strong ſcented wild lettuce.

This plant which is indigenous in Britain, and grows abundantly in ſome places, differs very eſſentially in its qualities from the garden lettuce.

It ſmells ſtrongly of opium, and reſembles it in ſome of its effects ; and its narcotic power, like that of the popy heads, reſides in its milky juice. An extract from the expreſſed juice, is recommended in ſmall doſes in dropſy. In dropſies of long ſtanding, proceeding from viſceral obſtructions, it has been given to the extent of half an ounce a day. It is ſaid to agree with the ſtomach, to quench thirſt, to be gently laxative, powerfully diuretic, and ſomewhat diaphoretic. Plentiful dilution is allowed during its operation. Dr Collin of Vienna aſſerts, that out of 24 dropſical patients, all but one were cured by this medicine.

LADANUM [*Lond*] *Reſina.*

Ciſtus creticus Lin.

Ladanum ; the gum reſin.

This reſin is ſaid to have been formerly collected from the beards of goats who brouzed the leaves of the ciſtus : at preſent a kind of rake, with ſeveral ſtraps or thongs of ſkins fixed to it, is drawn lightly over the ſhrub, ſo as to take up the unctuous juice, which is afterwards ſcraped off with knives. It is rarely met with pure, even in the places which produce it ; the duſt, blown upon the plant mixing with the tenacious juice : the inhabitants are alſo ſaid to mix with it a certain black ſand. In the ſhops two ſorts are met with: the beſt (which is very rare) is in dark-coloured almoſt black maſſes, of the conſiſtence of a ſoft plaſter, which grows ſtill ſofter on being handled; of a very agreeable ſmell, and of a ſlight pungent bitteriſh taſte: the other ſort is harder, not ſo dark coloured, and is coiled up in long rolls Rectified ſpirit of wine almoſt entirely diſſolves pure ladanum, leaving only a ſmall portion of gummy matter which has no taſte or ſmell: and hence this reſin may be thus excellently purified for internal purpoſes. It is an uſeful ingredient in the ſtomachic plaſter, now ſtyled *Emplaſtrum ladani.*

LAVENDULA [*Lond. Ed.*] *Spicæ florentes.*

Lavendula Spica Lin.

Lavender; the flowering tops.

There are different varieties of this vegetable, particularly the narrow and broad leaved. The flowers of both have a fragrant agreeable ſmell, and a warm, pungent, bitteriſh taſte; the broad-leaved ſort is the ſtrongeſt in both reſpects, and yields in diſtillation thrice as much eſſential oil as the other; its oil is alſo hotter and ſpecifically heavier; hence in the ſouthern parts of France, where both kinds grow wild, this only is uſed for the diſtillation of what is called oil of ſpike. The narrow leaved is the ſort commonly met with in our gardens.

Lavender is a warm ſtimulating aromatic. It is principally recommended in vertigoes, palſies, tremors, ſuppreſſion of the menſtrual evacuations; and in general in all diſorders of the head, nerves, and uterus. It is ſometimes alſo uſed externally in fomentations for paralytic limbs. The diſtilled oil is particularly celebrated for deſtroying the *pediculi inguinales,* and other cutaneous inſects: if ſoft ſpongy paper dipt in this oil, either alone, or mixed with that of almonds be applied at night to the parts infeſted by the inſects, they will certainly, ſays Geoffroy, be all found dead in the morning. The officinal preparations of lavender are, the eſſential oil, ſimple ſpirit, and a compound tincture.

LAURUS [*Lond.*] *Folium, bacca.* [*Ed.*] *Folia, Baccæ, baccarum oleum expreſſum.*

Laurus nobilis Lin.

Bay: the leaf and berry.

The berries of the bay are generally brought from the coaſts of the Mediteranean: the tree bears the colds of our own climate. They have a moderately ſtrong aromatic ſmell, and a warm bitteriſh, pungent taſte: the berries are ſtronger in both reſpects than the leaves, and afford in diſtillation a larger quantity of aromatic eſſential oil; they yield alſo an almoſt inſipid oil to the preſs, in conſequence of which they prove unctuous in the mouth. Theſe ſimples are warm carminative medicines, and are ſometimes exhibited with this intention againſt flatulent colics, and in hyſterical diſorders.

Their principal uſe, in the preſent practice, is in glyſters, and ſome external applications. The leaves enter our common fomentation; and the berries, the plaſter of cummin: they alſo gave name to an electuary, which was little otherwiſe uſed than in glyſters.

LENTISCUS [*Brun.*] *Lignum.*

Piſtacia lentiſcus Lin.

The lentiſc tree; the wood.

This tree or ſhrub is a native of the warm climates, but bears the common winters of our own. The wood is brought to us in thick knotty pieces, covered with an aſh-coloured bark, white within, of a rough, ſomewhat pungent taſte, and an agreeable, though faint ſmell; the ſmaller tough ſprigs are the ſtrongeſt both in taſte and ſmell. This wood is accounted a mild balſamic aſtringent; a decoction of it is in the German ephemerides dignified with the title of vegetable *aurum potabile*, and ſtrongly recommended in catarrhs, nauſea, and weakneſs of the ſtomach; for ſtrengthening the tone of the viſcera in general, and promoting the urinary ſecretion.

This is the tree which, in the iſland Chio, affords the reſin called *maſtich*. See MASTICHE.

LEONTODON. See TARAXACUM.

LICHEN CINEREUS TERRESTRIS [*Brun.*]

Lichen caninus Lin.

Aſh-coloured ground liverwort.

This conſiſts of pretty thick digitated leaves, flat above, of a reticular texture underneath, and faſtened to the earth by ſmall fibres; the leaves when in perfection are of an aſh-colour; by age they become dark-coloured or reddiſh.

This ſimple is ſaid to be a warm diuretic: but the taſte diſcovers in it little or no warmth. It was celebrated for its virtue in the cure of the diſorders occaſioned by the bite of a mad dog. An account of the remarkable effects of a powder compoſed of the dried leaves and pepper, in theſe caſes, was communicated to the Royal Society by Mr Dampier, and publiſhed in the Philoſophical Tranſactions. This powder was afterwards inſerted (in the year 1721.) into the London pharmacopœia, under the title of *pulvis antilyſſus*, at the deſire of Dr Mead, who had great experience of its good effects. Some years after, the Doctor publiſhed and diſperſed a paper containing the method of cure, which he had in a great number of inſtances conſtantly found ſucceſsful. In this paper the directions were to the following effect: "Let the patient be bled to the extent of nine or ten ounces: and afterwards take a drachm and a half of the powder every morning faſting for four mornings ſucceſſively, in half a pint of cow's milk, warm. After theſe four doſes are taken, the patient muſt go into the cold bath, or a cold ſpring or river, every morning faſting for a month, he muſt be dipt all over, but not ſtay in (with his head above water) longer than half a minute, if the water be very cold: after this he muſt go in three times a week for a fortnight longer." In the year 1745, the world was favoured with a new edition of the Mechanical Account of Poiſons, in which we find the ſame method of cure again recommended, as having, in a courſe of thirty years experience, never failed of ſucceſs; where it had been followed before the hydrophobia begun. It is greatly to be wiſhed, that the efficacy of this medicine in preventing theſe terrible diſorders, was proved by inconteſtible facts.

Inſtances have been produced of its proving unſucceſsful; and the many examples of the fatality of the diſeaſe which continually occur, ſeem arguments either of the inefficacy of the medicine or a ſtrange negligence in applying it. We ſhall only farther obſerve, that Boerhaave, who is in general ſufficiently liberal in the commendation of remedies, ranks this among thoſe inſignificant triffles, which whoever depends on, will find himſelf deceived; and indeed this opinion is now ſo general, that this ſpecies of the lichen has no place in the preſent editions of our pharmacopœias, and is now rejected from moſt of the foreign ones.

LICHEN [*Ed.*] *Herba.*

Lichen iſlandicus Lin.

Eryngo-leaved, or eatable liverwort.

The leaves of this ſpecies of lichen are nearly erect, ſtiff when dry, and pliant when moiſt, irregularly divided into broad diſtant ſegments, ſmooth and ciliated at the margins. It is a native of this country. An ounce of it boiled in a pound of water, and ſtrained, yields about ſeven ounces of as thick a mucilage as one part of gum Arabic diſſolved in three parts of water. The Icelanders uſe it in diet. It is ſteeped in water to deprive it of its bitterneſs and cathartic quality, and the powder of it is made into pottage with milk or water. This diet is recommended in phthiſis and ſcorbutus; and is ſaid to be very nouriſhing, antiſeptic, and gently laxative. The Edinburgh pharmacopœia, however, is the only one into which this ſpecies of lichen ſeems yet to be introduced: and few practitioners in Britain have much experience of it. If it have any effect, it is probably only as a mild article of diet.

LIGNUM CAMPECHENSE.

See Hæmatoxylum.

LIGNUM RHODIUM

[*Roſs.*]

Geniſta canarienſis Lin.

Roſewood.

This wood or root is chiefly brought to us from the Canary iſlands. The writers on botany and the materia medica are much divided about the lignum rhodium, not only with regard to the plant which affords it, but likewiſe in their accounts of the drug itſelf, and have deſcribed, under this name, ſimples manifeſtly different. This confuſion ſeems to have ariſen from an opinion that the rhodium and aſpalathus (an article of conſiderable eſteem among the antients, but with regard to which the moderns are very much at a loſs) are the ſame; whence different woods, brought into Europe for the unknown aſpalathus, were ſold again by the name of rhodium.

In thoſe modern pharmacopœias which admit the lignum rhodium, different Linnæan names are at preſent given to it: the authors of the Diſpenſatorium Brunſvicenſe ſuppoſe it to be the rhodiola roſa of Linné, and they may perhaps be as near the truth as the authors of the Pharmacopœia Roſſica.

As to aſpalathus, the antients themſelves diſagree; Dioſcorides meaning by this appellation the wood of a certain ſhrub freed from the bark, and Galen the bark of a root. At preſent we have nothing under this name in the ſhops. What was heretofore ſold among us as aſpalathus, were pieces of a pale coloured wood brought from the Eaſt Indies, and more commonly called *calambour*.

The aſpalathus, calambour, and lignum aquilæ, are ſuppoſed to be woods of the nature of agallochum, or lignum aloes, but weaker in quality.

The lignum rhodium of the ſhops is uſually in long crooked pieces, full of knots, which when cut appear of a yellow colour like box, with a reddiſh caſt: the largeſt, ſmootheſt, moſt compact, and deepeſt coloured pieces, ſhould be choſen; and the ſmall, thin, or pale ones rejected. The taſte of this wood is ſlightly bitteriſh, and ſomewhat pungent; its ſmell very fragrant, reſembling that of roſes: long kept, it ſeems to loſe its ſmell; but on cutting, or rubbing one piece againſt the other, it ſmells as well as at firſt. Diſtilled with water, it yields an odoriferous eſſential oil, in very ſmall quantity. Rhodium is at preſent in eſteem only on account of its oil, which is employed as an high and agreeable perfume in ſcenting pomatums and the like. But if we may reaſon from analogy, this odoriferous ſimple might be advantageouſly applied to more uſeful purpoſes; a tincture of it in rectified ſpirit of wine, which contains in a ſmall volume the virtue of a conſiderable quantity of the wood, bids fair to prove a ſerviceable cordial, not inferior perhaps to any thing of this kind.

LIGUSTICUM [*Ed.*] *ſemen.*

Liguſticum Leviſticum Lin.

Lovage; the ſeed.

This is a large umbelliferous plant, cultivated with us in gardens. The root nearly agrees in quality with that of angelica: the principal difference is, that the lovage root has a ſtronger ſmell, and a ſomewhat leſs pungent taſte, accompanied with a more durable ſweetneſs: the ſeeds are rather warmer than the root. Theſe ſimples, though certainly capable of being applied to uſeful purpoſes, are not at preſent regarded: neither of them is directed in extemporaneous preſcription.

LILIUM ALBUM [*Ed.*] *Radix.*

Lilium candidum Lin.

White lily; the root.

This is cultivated in gardens, more for the beauty of its flowers than for medicinal uſe. The mucilaginous root is ſometimes uſed as a poultice; but it poſſeſſes no advantage over the poultices formed of vegetable farinæ.

LILIUM CONVALLIUM [*Suec.*] *Flores.*

Convallaria maialis Lin.

Lily of the valley, or May lily; the flowers.

This plant grows wild in great abundance in woods and ſhady places, flowering in May. The flowers are ſaid to be cephalic and nervine. They have a pleaſant ſweet ſmell, which they impart by infuſion to expreſſed oils, and give over in diſtillation both to water and ſpirit; but no eſſential oil has been hitherto obtained from them. Etmuller ſays, that the diſtilled ſpirit is more fragrant than the water. The roots of the wild lily are very bitter: when dried, they are ſaid to prove a gentle errhine; as are alſo the flowers.

LIMON [*Lond.*] *Succus, cortex exterior, et oleum* eſſentia *dictum.* [*Ed.*] *Fructus, cortex fructus, et ejus oleum vulgo* eſſentia *dictum.*

Citrus medica Lin.

Lemon; the juice, outer rind, and its oil or eſſence.

The juice of lemon is a ſtrong native vegetable acid. The yellow peel is an elegant aromatic, and is frequently employed in ſtomachic tinctures and infuſions: it is conſiderably leſs hot than orange peel, and yields in diſtillation with water a leſs quantity of eſſential oil: its flavour is nevertheleſs more periſhable, yet it does not riſe ſo readily with ſpirit of wine; for a ſpirituous extract, made from lemon peel, poſſeſſes the aromatic taſte and ſmell of the ſubject, in much greater perfection than an extract prepared in the ſame manner from the peels of oranges. In the ſhops, a ſyrup is prepared from the juice, and the peel is candied; the peel is an ingredient in the bitter infuſions and wines; the eſſential oil enters the volatile aromatic ſpirit, *Spiritus ammoniæ compoſitus*, as it is now called, and ſome other formulæ.

LINARIA [*Suec.*] *Folia.*

Antirrhinum Linaria Lin.

Toad-flax; the leaves.

This grows wild on banks and about the ſides of fields. It is ſaid by ſome to be a powerful diuretic, whence it is named by Tragus *herba urinalis*, by others, to be a ſtrong cathartic, inſomuch that Branfelſius has called it by a German name expreſſing this quality, *ſcheiſskraut*. Experience ſcarcely warrants either of theſe appellations; nor does common practice take any notice of the plant.

LINGUA CERVINA. See Scolopendrium.

LINUM CATHARTICUM [*Roſs.*] *Herba.*

Linum catharticum Lin.

Purging-flax; the leaves.

This is a very ſmall plant, not above four or five inches high, found wild upon chalky hills and in dry paſture-grounds. Its virtue is expreſſed in its title; an infuſion in water or whey of a handful of the freſh herb, or a drachm of it in ſubſtance when dried, are ſaid to purge without inconvenience.

LINUM SATIVUM [*Lond.*] *Semen.* [*Ed.*] *Semen et oleum ejus expreſſum.*

Linum uſitatiſſimum Lin.

Lintſeed.

Lintſeed yields, by preſſing, a conſiderable quantity of oil; and boiled in water, a ſtrong mucilage: theſe are occaſionally uſed for the ſame purpoſes as other ſubſtances of that claſs; as are alſo the ſeeds themſelves in emollient and maturating cataplaſms. They have been employed in Aſia, and, in times of ſcarcity, in Europe, as food; but are not agreeable, or in general wholeſome. Tragus relates, that thoſe who fed on them in Zealand, had the hypochondria much diſtended, and the face and other parts ſwelled, in a very ſhort time: and that ſeveral died of theſe complaints. The expreſſed oil is an officinal preparation.

LIQUIDAMBRA [*Brun.*] *Reſina.*

Liquidambra ſtyraciflua Lin.

Liquidamber.

This is a reſinous juice which flows from a large tree growing in Virginia, Mexico, and other provinces of America. This juice is at firſt about the conſiſtence of turpentine, but by long keeping hardens into a reſin; it is of a yellow colour inclining to red, a warm taſte, and a fragrant ſmell, not unlike that of ſtorax heightened with a little ambergris. It was formerly of great uſe as a perfume; but is at preſent a ſtranger in the ſhops.

LITHARGYRUS. See Plumbum.

LIXIVA. See Cineres Clavellati.

LOBELIA [*Ed.*] *Radix.*
Lobelia ſyphilitica Lin.
Lobelia; the root.

This plant grows in moiſt places in Virginia, and bears our winters. It is perennial, has an erect ſtalk three or four feet high, blue flowers, a milky juice, and a rank ſmell. The root conſiſts of white fibres about two inches long, reſembles tobacco in taſte, and is apt to excite vomiting. It is uſed by the North American Indians as a ſpecific in the venereal diſeaſe. The form is that of decoction; the doſe of which is ordered to be gradually increaſed till it bring on very conſiderable purging, then to be intermitted for a little, and again uſed in a more moderate degree till the cure be completed. The ulcers are alſo waſhed with the decoction, and the Indians are ſaid to ſprinkle them with the powder of the inner bark of the ſpruce tree. The ſame ſtrictneſs of regimen is ordered as during a ſalivation or mercurial courſe The benefit to be derived from this article has not, as far as we know, been confirmed either in Britain, or by the practitioners in Virginia: for there, as well as in this country, recourſe is univerſally had to the uſe of mercury; and probably from this reaſon the London college have not received it into their liſt. It ſeems, however, to be an article which deſerves a trial.

LUJULA [*Lond. Edin.*] *Folium.*
Oxalis Acetoſella Lin.
Wood ſorrel; the leaves.

This is a ſmall plant, growing wild in woods. In taſte and medical qualities, it is ſimilar to the common ſorrel, but conſiderably more grateful, and hence is preferred. Boiled with milk, it forms an agreeable whey: and beaten with ſugar, a very elegant conſerve, which has been for ſome time kept in the ſhops, and not unfrequently employed.

LUPINUS [*Brun.*] *Semen.*
Lupinus albus Lin.
White lupines; the ſeeds.

Theſe have a leguminous taſte, accompanied with a diſagreeable bitter one. They are ſaid to be anthelmintic, both taken internally or applied externally. Caſpar Hoffman cautions againſt their internal uſe, and tells us (from one of the Arabian writers) that they have ſometimes occaſioned death. Simon Paulli alſo ſays, that he ſaw a boy of eight or ten years of age, after taking a drachm of theſe ſeeds in powder, ſeized with exquiſite pains of the abdomen, a difficulty of reſpiration, and almoſt total loſs of voice; and that he was relieved from theſe complaints by a glyſter of milk and ſugar, which brought away a vaſt quantity of worms. But Mr Geoffroy obſerves, very juſtly, that either theſe ſymptoms were owing to the worms, and not to the medicine;

dicine; or that theſe ſeeds, if they have any noxious quality, loſe it, with their bitterneſs, in boiling; ſince they were commonly uſed among the Greeks as food, and recommended by Galen as very wholeſome.

LUPULUS [*Suec.*] *Strobuli.*
Humulus Lupulus Lin.
Hops; the leafy heads.

Theſe are one of the moſt agreeable of the ſtrong bitters, though rarely employed for any medicinal purpoſes. Their principal conſumption is in malt liquors, which they preſerve from undergoing the acetous and putrifactive fermentations, render leſs glutinous, and diſpoſe to paſs off more freely by urine.

The odour of hops hung in a bed has been ſaid to induce ſleep after opium had failed.

Hops contain a very conſiderable proportion of eſſential oil; and in the manner in which they are commonly uſed in brewing, this has been hitherto almoſt entirely loſt: but a late propoſal has been made for preſerving it as it ariſes, and reſtoring it to the brewed liquor; a diſcovery well meriting attention.

LYCOPERDON [*Brun.*]
Lycoperdon Boviſta Lin.
Puff ball, or duſty muſhroom.

This fungus is found in dry paſture grounds. It ſeems to be nearly of the ſame quality with the agaric of the oak; and has, like it, been employed for reſtraining external hæmorrhagies and other fluxions. The fine duſt, with which it becomes filled by age, has alſo been applied with the ſame intentions.

MACIS. See MYRISTICA.

MAGNESIA VITRIOLATA. [*Lond. Ed.*] *Sal Catharticus Amarus.*

This ſalt is the ſalt of the Epſom and ſome other purging mineral waters. It may alſo be extracted from the bitter liquor remaining after the cryſtalliſation of common ſalt. We uſually meet with it in minute cryſtals, of a ſnowy appearance; diſſolved in water, and cryſtalliſed afreſh, it concretes, if properly managed, into larger ones, of a rectangular priſmatic figure, reſembling thoſe of the artificial cathartic ſalt of Glauber, for which they are ſometimes ſubſtituted in the ſhops.

This ſalt has a penetrating bitteriſh taſte; it diſſolves in leſs than an equal weight of water; in a moderate heat, it melts, bubbles up into bliſters, and ſoon changes into a white ſpongy maſs, with the loſs of above half of its weight: this calx taſtes more bitter than the ſalt did at firſt, and totally diſſolves again in water. The acid of this ſalt is the vitriolic: and its baſis magneſia. Hence on adding alkaline ſalts to a ſolution of Glauber's ſalt no change enſues: while the ſalts obtained from the purging waters, or the bittern of marine waters, grow milky and depoſite their earth, by the addition of the alkaline ſalt which is taken up in its place.

The magneſia vitriolata is a mild and gentle purgative, operating with ſufficient efficacy, and in general with eaſe and ſafety, rarely ly occaſioning any gripes, ſickneſs, or the other inconveniencies, which purgatives of the reſinous kind are too often accompanied with. Six or eight drachms may be diſſolved for a doſe in a proper quantity of common water; or four, five, or more, in a pint, or quart of the purging waters. Theſe liquors may likewiſe be ſo managed as to promote evacuation, by the other emunctories; if the patient be kept warm, they increaſe perſpiration: and by moderate exerciſe in a cool air, the urinary diſcharge. Some allege this ſalt has a peculiar effect in allaying pain, as in colic, even independently of evacuation.

MAJORANA [*Lond. Ed.*] *Herba.*

Origanum Majorana Lin.

Sweet marjoram; the leaves.

Marjoram is raiſed annually in our gardens for culinary as well as medicinal uſes; the ſeeds are commonly procured from the ſouthern parts of France, where the plant grows wild. It is a moderately warm aromatic, yielding its virtues both to aqueous and ſpirituous liquors by infuſion, and to water in diſtillation. It is principally celebrated in diſorders of the head and nerves, and in the humoral aſthmas and catarrhs of old people. An eſſential oil of the herb is kept in the ſhops. The powder of the leaves proves an agreeable errhine, and enters the officinal ſternutatory powder.

MALVA [*Lond. Ed.*] *Folium, flos.*

Malva ſylveſtris Lin.

Mallow; the leaf and flower.

Theſe have a ſomewhat mucilaginous ſweetiſh taſte. The leaves were formerly of ſome eſteem, in food, for looſening the belly; at preſent, decoctions of them are ſometimes employed in dyſenteries, heat, and ſharpneſs of urine, and in general for obtunding acrimonious humours; their principal uſe is in emollient glyſters, cataplaſms, and fomentations. The leaves enter the officinal decoction for glyſters, and a conſerve was formerly prepared from the flowers.

MANDRAGORA [*Suec.*] *Radix.*

Atropa Mandragora Lin.

Mandrake; the root.

The qualities of this plant are very doubtful: it has a ſtrong diſagreeable ſmell reſembling that of the narcotic herbs, to which claſs it is uſually referred; and it belongs indeed to the ſame genus as the deadly nightſhade. It has rarely been any otherwiſe uſed in medicine, than as an ingredient in one of the old officinal ointments. Both that compoſition and the plant itſelf are now rejected from our pharmacopœias; but it ſtill retains a place in moſt of the foreign ones, and may perhaps be conſidered as deſerving farther attention.

MANNA [*Lond. Ed.*] *Succus concretus.*

Fraxinus Ornus Lin.

Manna.

Manna is the juice of a ſpecies of aſh tree, growing in Italy and Sicily. When naturally concreted on the tree and ſcraped off, it is called manna in the tear: but if allowed to exude on ſtraws or chips of wood faſtened to the tree, it is called canulated or flaky manna. The common, or fat manna, is got by inciſions made after the ſpontaneous exudation is over, and is in larger maſſes and of a redder colour. The beſt Calabrian manna is in oblong, light, friable pieces or flakes, of a whitiſh or pale yellow colour, and ſomewhat tranſparent. The inferior kinds are moiſt, unctuous, and dark coloured. Manna is ſaid to be ſometimes counterfeited by a compoſition of ſugar and honey, mixed with a little ſcammony: there is alſo a factitious manna, which is white and dry, ſaid to be compoſed of ſugar, manna, and ſome purgative ingredient, boiled to a proper conſiſtence. this may be diſtinguiſhed by its weight, ſolidity, untranſparent whiteneſs, and by its taſte, which is different from that of manna.

Manna is a mild, agreeable laxative. and may be given with ſafety to children and pregnant women: nevertheleſs in ſome particular conſtitutions, it acts very unkindly, producing flatulencies and diſtention of the viſcera; theſe inconveniences may be prevented by the addition of any grateful warm aromatic. Manna operates ſo weakly as not to produce the full effect of a cathartic, unleſs taken in large doſes; and hence it is rarely given with this intention by itſelf. It may be commodiouſly diſſolved in the purging mineral waters, or joined to cathartic ſalts, to ſenna, rhubarb, or the like. Geoffroy recommends acuating it with a few grains of emetic tartar; the mixture is to be divided into ſeveral doſes, each containing one grain of the emetic tartar: by this management, he ſays, bilious ſerum will be plentifully evacuated, without any nauſea, gripes, or other inconvenience. It is remarkable, that the efficacy of this drug is greatly promoted (if the account of Valliſnieri is to be relied on) by a ſubſtance which is itſelf very ſlow of operation, caſſia. And for this reaſon manna is an ingredient in the electuary of caſſia.

MARRUBIUM [*Lond. Ed.*] *Herba.*

Marrubium vulgare Lin.

White horehound; the leaves.

They have a very ſtrong, not diſagreeable ſmell, and a roughiſh very bitter taſte. Beſides the virtues which they poſſeſs in common with other ſtrong bitters, they are ſuppoſed to be peculiarly ſerviceable in humoral aſthmas and coughs, the jaundice, and other chronical diſorders. They are doubtleſs an uſeful aperient and deobſtruent; they promote the fluid ſecretions in general, and, when liberally taken, looſen the belly.

MARUM SYRIACUM [*Lond.*] *Herba.*

Teucrium Marum Lin.

Syrian herb maſtic.

This is a ſmall ſhrubby plant, growing ſpontaneouſly in Syria, Candy, and other warm climates, and cultivated with us in gardens. The leaves have an aromatic bitteriſh taſte; and when rubbed between the fingers, a quick pungent ſmell like volatile alkali, which ſoon affects the head and occaſions ſneezing: diſtilled with water, they yield a very acrid, penetrating eſſential oil, reſembling that of ſcurvy-graſs. Theſe qualities ſufficiently point out the uſes to which this plant might be applied; at preſent it is little otherwiſe employed than in cephalic ſnuffs. It is an ingredient in the *pulvis aſari compoſitus*, of the London pharmacopœia.

MASTICHE [*Lon. Ed.*] *Reſina.*

Piſtacia Lentiſcus Lin.

Gum maſtich.

Maſtich is a reſinous ſubſtance brought from Chio, in ſmall, yellowiſh, tranſparent grains or tears, of an agreeable ſmell, eſpecially when heated or ſet on fire. This reſin is recommended in old coughs, dyſenteries, hæmoptoes, weakneſs of the ſtomach, and in general in all debilities. Geoffroy directs an aqueous decoction of it to be uſed for theſe purpoſes. Water extracts little or nothing from this reſin; rectified ſpirit almoſt entirely diſſolves it: the ſolution taſtes very warm and pungent; it is not however the baſis of any fixed formula in our pharmacopœias, and is at preſent but little employed.

MATRICARIA [*Suec.*] *Herba.*

Matricaria Parthenium Lin.

Common wild featherfew; the leaves.

This plant was at one time much celebrated as an antihyſteric medicine; but it is now ſo little employed in Britain, that it has no place in our pharmacopœias.

Simon Paulli relates, that he has experienced moſt happy effects from it in obſtructions of the uterine evacuations; I have often ſeen, ſays he, from the uſe of a decoction of matricaria and chamomile flowers with a little mugwort, hyſteric complaints inſtantly relieved, the diſcharge ſucceed plentifully, and the patient, from a lethargic ſtate, return as it were into life again. Matricaria is likewiſe recommended in ſundry other diſorders, as a warm ſtimulating bitter: all that bitters and carminatives can do, ſays Geoffroy, may be expected from it. It is undoubtedly a medicine of ſome uſe in theſe caſes, though not perhaps equal to chamomile flowers alone, with which the matricaria agrees in ſenſible qualities, excepting in being weaker.

MECHOACANNA [*Brun.*] *Radix.*

Convolvulus Mechoacanna Lin.

Mechoacan; the root.

This is the root of an American convolvulus brought from Mechoacan, a province of Mexico, in thin ſlices like jalap, but larger, and of a whitiſh colour. It was firſt introduced into Europe about the year 1524, as a purgative univerſally ſafe, and capable of evacuating all morbific humours from the moſt remote parts of the body: but as ſoon as jalap became known, mechoacan gradually loſt its reputation, which it has never ſince been able to retrive. It is neverthleſs ſtill deemed an uſeful cathartic; it has very little ſmell or taſte, and is not apt to offend the ſtomach; its operation is ſlow, but effectual and ſafe. Geoffroy affirms, that ſcarcely any purgative is accompanied with fewer inconveniences. It ſeems to differ from jalap only in being weaker: the reſins obtained from both have nearly the ſame qualities, but jalap yields five or ſix times as much as Mechoacan; hence it is found neceſſary to exhibit the latter in ſix times the doſe of the former, to produce the ſame effects.

MEL [*Lond. Ed.*]

Honey.

Honey is a juice, obtained from the honey comb, either by ſeparating the combs, and laying them flat upon a ſieve, through which the honey ſpontaneouſly percolates; or by including the comb in canvas bags, and forcing the honey out by a preſs: the firſt ſort is the pureſt; the latter is found to contain a good deal of the matter of which the comb is formed, and ſundry other impurities: there is another ſort ſtill inferior to the two foregoing, obtained by heating the combs before they are put into the preſs. The beſt ſort is thick, of a whitiſh colour, an agreeable ſmell, and a very pleaſant taſte; both the colour, and flavour differ according to the plants from which the bees collect it: that of Narbonne in France, where roſemary abounds, is ſaid to have a very manifeſt flavour of that plant, and to be imitable by adding to other honey an infuſion of roſemary flowers; and the Corſican honey has the taſte and flavour of orange flowers.

Honey, conſidered as a medicine, is a very uſeful detergent and aperient, powerfully promoting the expectoration of tough phlegm: in ſome particular conſtitutions it has an inconvenience of griping or proving purgative: and hence the Edinburgh college do not now employ it in any preparation, and have entirely rejected the mella medicata, ſubſtituting ſyrups in their place: honey however doubtleſs is very uſeful in giving form to different articles, though there be ſome individuals with whom it may diſagree.

MELAMPODIUM [*Ed.*] See HELLEBORUS NIGER.

MELILOTUS [*Suec.*] *Flores, herba.*

Trifolium Melilotus officinalis Lin.

Melilot; the leaves and flowers.

This plant grows wild in hedges and among corn; and has likewiſe been cultivated for medicinal uſes, in gardens. The green herb has no remarkable ſmell; when dry, a pretty ſtrong one; the taſte is roughiſh, bitter, and if long chewed, nauſeous. A decoction of this herb has been recommended in inflammations of the abdomen; and a decoction of the flowers in the fluor albus. But modern practice rarely employs it any otherwiſe than in emollient and carminative glyſters, and in fomentations, cataplaſms, and the like; and even in theſe not often. It formerly gave name to one of the officinal plaſters, which received from the melilot a green colour, but no particular virtue.

MELISSA [*Lond. Ed*] *Folia.*

Meliſſa officinalis Lin.

Balm; the herb.

This plant when in perfection, has a pleaſant ſmell, ſomewhat of the lemon kind; and a weak, roughiſh aromatic taſte. The young ſhoots have the ſtrongeſt flavour: the flowers, and the herb itſef, when old, or produced in very moiſt rich ſoils or rainy ſeaſons, are much weaker both in ſmell and taſte. Balm is appropriated by the writers on the Materia Medica, to the head, ſtomach, and uterus; and in all diſorders of theſe parts is ſuppoſed to do extraordinary ſervice. So high an opinion have ſome phyſicians entertained of balm, that they have expected to find in it a medicine which ſhould prolong life beyond the uſual period. The preſent practice however holds it in no great eſteem, and ranks it, where it certainly deſerves to be, among the weaker corroborants: in diſtillation it yields an elegant eſſential oil, in ſmall quantity; the remaining decoction taſtes roughiſh. Strong infuſions of the herb, drank as tea, and continued for ſome time, have done ſervice in a weak lax ſtate of the viſcera: theſe liquors, ſlightly acidulated with juice of lemons, turn of a fine reddiſh colour, and prove an uſeful, and to many a very grateful drink, in dry parching fevers.

MENTHA CATARIA, See NEPETA.

MENTHA PIPERITIS [*Lond. Ed.*] *Herba.*

Mentha piperita Lin.

Peppermint; the leaves.

This ſpecies of mint grows wild in ſome parts of England in moiſt watery places, but is much leſs common than the other ſorts. The leaves have a more penetrating ſmell than any of the other mints, and a much warmer, pungent glowing taſte like pepper, ſinking as it were into the tongue. The principal uſe of this herb is in flatulent colics, languors, and other ſimilar diſorders: it ſeems to act as ſoon as taken, and to extend its effects though the whole ſyſtem, inſtantly communicating a glowing warmth. Water extracts the whole of the pungency of this herb by infuſion, and elevates it in diſtillation. Its officinal preparations are an eſſential oil, a ſimple water, and a ſpirit.

MENTHA SATIVA [*Lond. Ed.*] *Herba.*

Mentha viridis Lin.

Garden or ſpear mint; the leaves.

Both the London and Edinburgh pharmacopœias make it the *mentha viridis* of Linné, but in the Swediſh pharmacopœia it is ſtated to be the *Mentha criſpa*, of Linné; the reader may judge for himſelf which is right; but he muſt recollect that the Swediſh pharmacopœia was compiled by a committee of the college of phyſicians at Stockholm; and this committee, conſiſting of ſeveral members, left the reviſal and publication of the pharmacopœia to two of their number, viz. Linné and Bergman, the one the greateſt naturaliſt, and the other the greateſt chemiſt then in the world.

The leaves of this mint have a warm, roughiſh, ſomewhat bitteriſh taſte; and a ſtrong, not unpleaſant aromatic ſmell. Their virtues are thoſe of a warm ſtomachic and carminative: in loſs of appetite, nauſea, continual retchings to vomit, and as Boerhaave expreſſes it, almoſt paralytic weakneſſes of the ſtomach, few ſimples are perhaps of equal efficacy. In colic pains, the gripes to which children are ſubject, lienteries, and other kinds of immoderate fluxes, this plant frequently does good. It likewiſe proves beneficial in hyſteric caſes, and affords an uſeful cordial in languors and other weakneſſes following delivery.

The beſt preparations for theſe purpoſes are, a ſtrong infuſion from the dry leaves in water (which is much ſuperior to one from the green herb), or rather a tincture or extract prepared with rectified ſpirit. Theſe poſſeſs the whole virtues of the mint: the eſſential oil and diſtilled water contain only the aromatic part; the expreſſed juice only the aſtringency and bitterneſs, together with the mucilaginous ſubſtance common to all vegetables. The eſſential oil, a ſimple water, a ſpirit and a conſerve, are kept in the ſhops.

MENYANTHES. See TRIFOLIUM.

MERCURIALIS [*Gen.*] *Herba.*

Mercurialis annua Lin.

Herb mercury: the leaves.

This herb is ſometimes uſed in

glyſters. A ſyrup made from the leaves, given in the doſe of two ounces, is ſaid to prove a mild and uſeful laxative.

There is another ſort of mercurialis growing in woods and hedges, which though recommended by ſome botanic writers as having the ſame virtues with the foregoing, and as being more palatable, has been found poſſeſſed of noxious qualities. This may be diſtinguiſhed from the foregoing by its being a perennial plant, *Mercurialis perennis Lin.* by being larger, having its leaves rough and the ſtalk not at all branched : it is commonly called dog's mercury.

MERCURIUS. See HYDRARGYRUS.

MEUM [*Brun.*] *Radix.*
Æthuſa Meum Lin.
Spignel ; the root.

Spignel is an umbelliferous plant, found wild in Italy and the warmer parts of Europe, and ſometimes alſo in England. The roots have a pleaſant aromatic ſmell, and a warm pungent bitteriſh taſte : in virtue they are ſimilar to the leviſticum, from which this root ſeems to differ only in being weaker and ſomewhat more agreeable. It is an uſeful aromatic and carminative, though at preſent ſo little regarded as to have no place in our pharmacopœias.

MEZEREUM [*Lond. Ed.*] *radicis cortex.*
Daphne Mezereum Lin.
Mezereon, or ſpurge olive ; the bark of the root.

Mezereon, although an article of great activity, has only of late had a place in our pharmacopœias. It is a native of different parts of Europe ; it has elegant pale purpliſh or white flowers, ſometimes appearing about the end of January. The root was long uſed in the Liſbon diet-drink, particularly for venereal complaints, nodes, and other ſymptoms reſiſting the uſe of mercury.

On chewing it a little, it proves very pungent, and its acrimony is accumulated about the fauces, and is very durable. It is employed chiefly under the form of decoction ; and it enters the *Decoctio ſarſaparillæ compoſitum* of the London pharmacopœia ; but it has alſo been uſed in powder combined with ſome inactive one, as that of liquorice root. It is apt to occaſion vomiting and purging ; ſo muſt be begun in grain doſes, and gradually increaſed. It is often uſefully combined with mercury. The bark of the root contains moſt acrimony, though ſome prefer the woody part. Mezereon has alſo been uſed with good effects in tumors and cutaneous eruptions not venereal.

MILLEFOLIUM [*Ed.*] *Folia, flores.*
Achillea Millefolium Lin.
Milfoil ; the leaves and flowers.

This grows plentifully about the ſides of fields, and on dry commons, flowering greateſt part of the ſummer. The leaves have a rough bitteriſh taſte, and a faint aromatic ſmell. Their virtues are thoſe of a very mild aſtringent : and as ſuch they ſtand recommended in hæmorrhagies both internal and external, in diarrhœas, and in ſpaſmodic and hyſterical affections. In theſe caſes ſome of the Germans have a very high opinion of this herb, particularly Stahl, who eſteemed it a very effectual aſtringent, and one of the moſt certain tonics and ſedatives.

datives. Its virtues are extracted in great perfection by proof ſpirit; water takes up its aſtringency and bitterneſs, but little of its aromatic flavour; tinctures made in rectified ſpirit contain both, though they be rather weaker than thoſe in proof ſpirit.

The flowers of milfoil are conſiderably ſtronger in aromatic flavour than the leaves; in diſtillation, they yield a ſmall quantity of eſſential oil, of an elegant blue colour.

The roots, taken up in the ſpring, have an agreeable, warm, pungent taſte. Dr Grew reſembles them to contrayerva, and imagines they might in ſome degree ſupply its place: this, however, is much to be doubted, ſince there is ſuch a remarkable difference between the two that while one retains its taſte for a length of time after it has been brought to us from America, the taſte of the other is almoſt loſt by drying.

MILLEPEDA [*Lond. Ed.*]
Oniſcus aſellus Lin.
Slaters or Millepedes.

These inſects are found in cellars, under ſtones, and in cold moiſt places: in the warm countries they are rarely met with. Millepedes have a faint diſagreeable ſmell, and a ſomewhat pungent, ſweetiſh, nauſeous taſte. They have been highly celebrated in ſuppreſſions of urine, in all kinds of obſtructions of the bowels, in the jaundice, weakneſs of ſight, and a variety of other diſorders. Whether they have any juſt title to theſe virtues, is greatly to be doubted: thus much is certain, that their real effects come far ſhort of the character given of them. Their officinal preparations are, the millepedes dried and powdered, and a vinous infuſion, which is by ſome held in high eſteem in caſes of hooping cough.

MINIUM [*Ed.*] See PLUMBUM.

MORUS [*Lond.*] *Fructus.*
Morus nigra Lin.
Mulberry; the fruit.

This tree is commonly cultivated on account of its fruit which is rather eaten for pleaſure than uſed as a medicine; it has the common qualities of the other ſweet fruits, abating heat, quenching thirſt, and promoting the ſecretions; an agreeable ſyrup made from the juice is kept in the ſhops. The bark of the roots has been in conſiderable eſteem as a vermifuge; its taſte is bitter, and ſomewhat aſtringent.

MOSCHUS [*Lond. Ed.*]
Moſchus moſchiferus Lin.
Muſk.

Muſk is a grumous ſubſtance like clotted blood, found in a little bag, ſituated near the umbilicus of a ruminating animal met with in China, Tartary, and the Eaſt Indies: the beſt muſk is brought from Tonquin, an inferior ſort from Agria and Bengal, and a ſtill worſe from Ruſſia.

Fine muſk comes to us in round thin bladders; which are generally about the ſize of a pigeon's egg, covered with ſhort brown hairs, well filled, and without any appearance of having been opened. The muſk itſelf is dry, with a kind of unctuoſity, of a dark reddiſh brown or ruſty blackiſh colour, in ſmall round grains, with very few hard black clots, and perfectly free from any ſandy or other viſible foreign matter. If chewed, and rubbed with a knife on paper, it looks ſmooth, bright, yellowiſh, and free from grittineſs. Laid on a red-hot iron, it catches flame, and burns almoſt entirely away, leaving only an exceeding ſmall quantity of light greyiſh aſhes; if any earthy ſubſtance have been mixed with the muſk, the quantity of the reſiduum will readily diſcover them.

Muſk has a bitter ſubacrid taſte; a fragrant ſmell, agreeable at a diſtance, but diſagreeable when too near, unleſs weakened by the admixture of other ſubſtances. If a ſmall quantity be infuſed in ſpirit of wine in the cold for a few days, it imparts a deep, but not red tincture: this, though it diſcovers no great ſmell of the muſk, is nevertheleſs ſtrongly impregnated with its virtues; a ſingle drop of it communicates to a whole quart of wine a rich muſky flavour. And this flavour, which a tincture of muſk communicates to vinous liquors, is perhaps one of the beſt criteria for judging of the goodneſs of muſk. Neumann informs us, that ſpirit of wine diſſolves ten parts out of thirty of muſk, and that water takes up twelve; that water elevates its ſmell in diſtillation, while pure ſpirit brings over nothing.

Muſk is a medicine of great eſteem in the eaſtern countries: among us, it has been for ſome time much out of uſe, even as a perfume. It appears, however, from late experience, to be, when properly managed, a remedy of great ſervice even againſt thoſe diſorders which it has been ſuppoſed to produce. Dr Wall has communicated (in the Philoſophical Tranſactions, Nº 474), an account of ſome extraordinary effects of muſk in convulſive and other diſeaſes, which have too often baffled the force of medicine. He obſerves, that the ſmell of perfumes is often of diſſervice, where the ſubſtance taken inwardly, and in conſiderable quantity, produces the happieſt effects: that two perſons labouring under a ſubſultus tendinum, extreme anxiety, and want of ſleep, from the bite of a mad dog, by taking two doſes of muſk, each of which were ſixteen grains, were perfectly relieved from their complaints. He likewiſe obſerves, that convulſive hiccups, attended with the worſt ſymptoms, were removed by a doſe or two, of ten grains: and that in ſome caſes, where this medicine could not, on account of ſtrong convulſions, be adminiſtered to the patient by the mouth, it proved of ſervice when injected as a glyſter. He adds, that under the quantity of ſix grains, he never found much effect from it; but that, taken to ten grains, and upwards, it never fails to produce a mild diaphoreſis, without at all heating or giving any uneaſineſs; that on the contrary, it eaſes pain, raiſes the ſpirits, and that after the ſweat breaks out the patient uſually falls into a refreſhing ſleep: that he never met with any hyſterical perſon, how averſe ſoever to perfumes, but could take it in the form of a bolus, without inconvenience. To this paper is annexed an account of ſome farther extraordinary effects of muſk, obſerved by another gentleman. Repeated experience has ſince confirmed its efficacy in theſe diſorders. The doſe has ſometimes been increaſed, particularly in convulſive diſorders, to the quantity of a ſcruple or half a drachm every three or four hours, with two or three ſpoonfuls of the muſk julep between. The julep is the only officinal preparation of it. It is given combined with opium in tetanus, and with mercury in rabies canina.

It is probable that we are often diſappointed of the good effects which this medicine might produce, from the muſk with which the ſhops are ſupplied being previouſly adulterated.

MURIA. See Sal muriaticus.

MYRISTICA [*Lond. Edin.*] *Fructus nucleus* nux moſchata *dictus*; *macis*; *oleum expreſſum*, oleum macis *dictum*; *oleum eſſentiale*. *Myriſtica moſchata Act. Holm.*

Nutmegs and mace.

Nutmegs are the kernel of a roundiſh nut which grows in the Eaſt-Indies. The outſide covering of this fruit is ſoft and fleſhy like that of a walnut, and ſpontaneouſly opens when the nut grows ripe: immediately under this lies the mace, which forms a kind of reticular covering; thro' the fiſſures of which appears a hard woody ſhell that includes the nutmeg. Theſe kernels have long been uſed both for medicinal and culinary purpoſes, and deſervedly conſidered as a warm agreeable aromatic. They are ſuppoſed likewiſe to have an aſtringent virtue; and are employed with that intention in diarrhœas and dyſenteries. Their aſtringency is ſaid to be increaſed by torrefaction, but this does not appear to the taſte: this treatment certainly deprives the ſpice of ſome of its finer oil, and therefore renders it leſs efficacious, and, if we may reaſon from analogy, probably abates its aſtringency. Nutmegs diſtilled with water, afford a large quantity of eſſential oil, reſembling in flavour the ſpice itſelf; after the diſtillation, an inſipid ſebaceous matter is found ſwimming on the water; the decoction, inſpiſſated, gives an extract of an unctuous, very ſlightly bitteriſh taſte, and with little or no aſtringency. Rectified ſpirit extracts the whole virtue of nutmegs by infuſion, but elevates very little of it in diſtillation; hence the ſpirituous extract poſſeſſes the flavour of the ſpice in an eminent degree.

Nutmegs yield to the preſs, when heated, a conſiderable quantity of limpid yellow oil, which on cooling concretes into a ſebaceous conſiſtence. In the ſhops we meet with three ſorts of unctuous ſubſtances, called oil of mace, though really expreſſed from the nutmeg. The beſt is brought from the Eaſt-Indies, in ſtone jars; this is of a thick conſiſtence, of the colour of mace, and an agreeable fragrant ſmell: the ſecond ſort, which is paler coloured, and much inferior in quality, comes from Holland in ſolid maſſes, generally flat and of a ſquare figure: the third, which is the worſt of all, and uſually called common oil of mace, is an artificial compoſition of ſevum, palm oil, and the like, flavoured with a little genuine oil of nutmeg. The oils yield all that part in which their aromatic flavour reſides, by diſtillation, to water, and by infuſion to pure ſpirit: the diſtilled liquor, and ſpirituous tincture nearly reſemble in quality thoſe prepared immediately from the nutmeg. The officinal preparations of nutmegs are a ſpirit and eſſential oil, and the nutmegs in ſubſtance. Both the nutmeg itſelf and its eſſential oil enter ſeveral compoſitions, as the *confectio aromatica*, *ſpiritus ammoniæ compoſitus*, &c.

Mace nearly agrees with nutmegs in its medicinal qualities. The principal difference conſiſts in mace being ſomewhat leſs aſtringent, and yielding a more fluid expreſſed oil, and a more volatile eſſential one.

MYROBALANI.

Myrobalans, dried fruits brought from the Eaſt Indies ; their outward part freed from the ſtone.

Five kinds of myrobalans were formerly directed as officinals : all of them are ſuppoſed to be the produce of the ſame tree, but its botanical deſcription is not yet aſcertained.

All myrobalans have a gentle purgative virtue. They have alſo an aſtringent quality, diſcoverable by the taſte, and from their ſtriking a black colour with chalybeate ſolutions : in conſequence of this, they are ſuppoſed to ſtrengthen the bowels after their operation as a cathartic is over. Nevertheleſs their purgative virtue is ſo ſmall that practitioners have for a long time laid them entirely aſide with that intention ; and the colleges of Edinburgh and London have now rejected them from the catalogue of officinal ſimples.

MYRRHA [*Lond. Ed.*] *Gummi reſina.*

Myrrh ; gum reſin.

Myrrh is a concrete gummy reſinous ſubſtance brought from the Eaſt-Indies, in globes or drops, of various colours and magnitudes. The beſt ſort is of a brown or reddiſh yellow colour, ſomewhat tranſparent ; of a lightly pungent, bitter taſte, with an aromatic flavour, though not ſufficient to prevent its proving nauſeous to the palate ; and a ſtrong, not diſagreeable ſmell. The medical effects of this aromatic bitter are to warm and ſtrengthen the viſcera : it frequently occaſions a mild diaphoreſis, and promotes the fluid ſecretions in general.

Hence it proves ſerviceable in languid caſes, in diſeaſes ariſing from ſuppreſſions of the uterine diſcharges in cachectic diſorders, and where the lungs and thorax are oppreſſed by viſcid phlegm. Myrrh is likewiſe ſuppoſed, in a peculiar manner, to reſiſt putrefaction in all parts of the body ; and in this light ſtands recommended in malignant, putrid, and peſtilential fevers, and in the ſmall-pox.

The preſent practice does not ſeem to expect any peculiar virtue from myrrh ; and it is now leſs employed than formerly. Some late writers, however, and particularly Dr Simmons, in this Treatiſe on Conſumptions, have beſtowed very high encomiums on it even in caſes of tuberculous phthiſis ; and although it can by no means be repreſented as a remedy much to be depended on, yet there is reaſon to believe that it has been ſerviceable in ſome caſes.

Rectified ſpirit extracts the fine aromatic flavour and bitterneſs of this drug, but does not elevate any thing of either in evaporation : the gummy ſubſtance left by this menſtruum has a diſagreeable taſte, with ſcarcely any of the peculiar flavour of the myrrh : this part diſſolves in water, except ſome impurities which remain. In diſtillation with water, a conſiderable quantity of a ponderous eſſential oil ariſes, reſembling in flavour the original drug Myrrh is the baſis of an officinal tincture. It enters the *pilulæ ex aloe et myrrha*, the *pilulæ e gummi*, and *pilulæ rhei compoſitæ*, and ſome other formulæ.

But for obtaining its full effects, it muſt be given in doſes of half a drachm or upwards: and it is thought to be advantageouſly united with a proportion of nitre, cream of tartar, or ſome other refrigerant ſalt.

MYRTUS [*Brun.*] *Baccæ.*
Myrtus communis Lin.
Myrtle; the berries.

This is an evergreen ſhrub, growing in Italy, and cultivated in our botanic gardens. The leaves and berries have been ſometimes uſed as aſtringents, but are not at preſent regarded.

NAPUS [*Brun.*] *Semen.*
Braſſica Napus Lin.
Sweet navew, or navew gentle; the ſeeds.

This is a ſort of turnip, ſown in ſome of our gardens for culinary uſe: the roots are warmer than the common turnip. The ſeeds have a bitteriſh taſte, accompanied with a faint aromatic flavour: abundance of virtues have been aſcribed to them, as attenuating, detergent, alexipharmic, and others, but at preſent they are ſcarcely employed in medicine.

NARDUS INDICA [*Brun.*] *Radix.*
Andropogon Nardus Lin.
Indian nard; or ſpikenard.

This root, brought from the Eaſt Indies, is a congeries of ſmall fibres iſſuing from one head, and matted cloſe together, ſo as to form a bunch about the ſize of the finger, with ſome ſmall ſtrings at the oppoſite end of the head. The matted fibres (which are the parts choſen for medicinal purpoſes) are ſuppoſed by ſome to be the head or ſpike of the plant, by others the root: they ſeem rather to be the remains of the withered ſtalks, or the ribs of the leaves: ſometimes entire leaves and pieces of ſtalks are found among them: we likewiſe now and then meet with a number of theſe bunches iſſuing from one root.

Spikenard has a warm, pungent, bitteriſh taſte; and a ſtrong, not very agreeable ſmell. It is ſtomachic and carminative; and ſaid to be alexipharmic, diuretic, and emmenagogue; but at preſent it is very little employed.

NASTURTIUM AQUATICUM [*Lond. Ed.*] *Herba recens.*
Siſymbrium Naſturtium Lin.
Water-creſſes; the freſh herb.

This plant grows wild in rivulets, and the clearer ſtanding waters; its leaves remain green all the year, but are in greateſt perfection in the ſpring. They have a quick pungent ſmell (when rubbed between the fingers), and an acrid taſte. As to their virtues, they are among the milder aperient antiſcorbutics Hoffman had an high opinion of this plant, and recommends it as of ſingular efficacy; the expreſſed juice which contains the peculiar taſte and pungency of the herb, may be taken in doſes of an ounce or two, and continued for a conſiderable time. The juice is an ingredient in the *Succus cochleariæ compoſitus* of the ſhops.

NATRUM. See Barilla.

NEPETA [*Brun*] *Folia.*
Nepeta cataria Lin.
Catmint; the leaves.

This plant is commonly cultivated in our gardens, and is ſometimes alſo found growing wild in hedges and on dry banks. It is a moderately aromatic plant, of a ſtrong ſmell, reſembling a mixture of mint and penny-royal; of the virtues of which it likewiſe participates.

NEPHRITICUM LIGNUM [*Brun.*]

Guilandina Moringa Lin.

Nephritic wood.

This is an American wood, brought to us in large, compact, ponderous pieces, without knots, of a whitiſh or pale yellow colour on the outſide, and dark coloured, or reddiſh within; the bark is uſually rejected. This wood imparts to water or rectified ſpirit a deep tincture; appearing, when placed between the eye and the light of a golden colour: in other ſituations, blue; pieces of another wood are ſometimes mixed with it, which give only a yellow colour to water. The nephritic wood has ſcarcely any ſmell, and very little taſte. It ſtands recommended in difficulty of urine, nephritic complaints, and all diſorders of the kidneys and urinary paſſages; and is ſaid to have this peculiar advantage, that it does not, like the warmer diuretics, heat or offend the parts. Practitioners, however, have not found theſe virtues warranted by experience.

NICOTIANA [*Lond. Edin.*] *Folium.*

Nicotiana Tabacum Lin.

Tobacco; the leaves.

This plant was firſt brought into Europe about the year 1560, from the iſland Tobago in America; and is now ſometimes cultivated for medicinal uſe in our gardens: but is generally imported from America in large quantities. The leaves are about two feet long, of a pale green colour while freſh, and when carefully dried of a lively yellowiſh caſt. They have a ſtrong, diſagreeable ſmell, like that of the narcotic plants, and a very acrid burning taſte. Taken internally, they prove virulently cathartic and emetic, occaſioning almoſt intolerable cardialgic anxieties. By boiling in water, their virulence is abated, and at length deſtroyed: an extract made by long coction is recommended, by Stahl and other German phyſicians, as a ſafe and moſt effectual aperient, expectorant, detergent, &c. but the medicine, which is extremely precarious and uncertain, has never come into any eſteem among us. Of late, however, tobacco, under the form of a vinous or watery infuſion, and taken in ſuch ſmall doſes as to produce litle effect from its action on the ſtomach, has been recommended to the attention of practitioners by Dr Fowler. He has found it to be a very uſeful and powerful diuretic, and has publiſhed many caſes of dropſy and dyſury, in which its employment has been attended with the beſt effects; and theſe good effects have been confirmed by the obſervations of other practitioners.

Tobacco is ſometimes uſed externally in ointments, for deſtroying cutaneous inſects, cleanſing old ulcers, &c. Beaten into a maſh with vinegar or brandy it has ſometimes proved ſerviceable in removing hard tumours of the hypochondria; an account is given in the Edinburgh Eſſays, of two caſes of this kind cured by it.

Injections by the anus of the ſmoke or decoction have been uſed with advantage in caſes of obſtinate conſtipation threatening ileus, of incarcerated hernia, of aſcarides,

des, of ſpaſmodic aſthma, and of perſons apparently dead from drowning or other ſudden cauſes. It has been uſed internally in form of ſyrup, conſerve, and infuſion, in caſes of worms, epilepſy, amenorrhœa, aſthma, &c. but it is certainly too active to be thus ventured on. An infuſion of its aſhes, recommended in dropſy, is not probably different from other vegetable lixivia, that contain a quantity of alkali.

There is another ſort of tobacco found wild on dunghills in ſeveral parts of England: *Nicotiana ruſtica of Lin.* It ſeems to agree in quality with the hyoſcyamus formerly mentioned, though, as Dale informs us, often ſubſtituted in our markets for the true tobacco: from which it may be diſtinguiſhed by the leaves being much ſmaller, and the flowers not reddiſh as thoſe of the officinal ſort, but of a yellowiſh green colour.

NITRUM. *Kali nitratum* [*Lond.*] *Lixiva nitrata* [*Edin.*]
Nitre.

Nitre, or ſaltpetre, is a ſalt extracted in Perſia and the Eaſt Indies from certain earths; and artificially produced, in ſome parts of Europe from animal and vegetable matters rotted together, with the addition of lime and aſhes, and expoſed for a length of time to the air; without the acceſs of which, nitre is never generated: the ſalt extracted from the earth, &c. by means of water, is purified by colature and cryſtalliſation.

Pure nitre diſſolves in about ſix times its weight of water, and concretes again when the water is evaporated into colourleſs tranſparent cryſtals; their figure is that of a hexagonal priſm, terminated by ſloping plates. It readily melts in the fire; and, in contact with fuel, deflagrates with a bright flame, and conſiderable noiſe; after the detonation is over, a large quantity of alkaline ſalt is found remaining. The taſte of nitre is ſharp, penetrating, and bitteriſh, accompanied with a certain ſenſation of coldneſs.

Nitre is a medicine celebrated in many diſorders. Beſides the aperient quality of neutral ſalts in general, it has a manifeſtly cooling one, by which it quenches thirſt, and abates febrile heats; promotes urine; ſometimes gently looſens the belly; but in cold phlegmatic habits, very rarely has this effect, though given in large doſes: alvine fluxes, proceeding from too great acrimony of the bile or inflammation of the inteſtines, are ſuppreſſed by it: in choleric and febrile diſorders, it generally excites ſweat; but in malignant caſes, where the pulſe is low, and the ſtrength loſt, it retards this ſalutary evacuation.

The uſual doſe of this medicine is from two or three grains to a ſcruple; though it may be given with great ſafety, and generally to better advantage, in larger quantities: the only inconvenience is its not being apt to ſit eaſy on the ſtomach. Some have affirmed, that this ſalt loſes half its weight of aqueous moiſture by fuſion, and conſequently that one part of melted nitre is equivalent to two of the cryſtals: but it did not appear, on ſeveral careful trials, to loſe ſo much as one twentieth of its weight. The only officinal preparation of nitre is the troches. It is employed likewiſe in operations on metallic bodies, for promoting their calcination.

NUX MOSCHATA. See Myristica.

NUX PISTACHIA [*Gen.*]
Piſtachia vera Lin.
Piſtachio nut.

This a moderately large nut, containing a kernel of a pale greeniſh colour, covered with a reddiſh ſkin. The tree which produces it grows ſpontaneouſly in Perſia, Arabia, and ſeveral iſlands of the Archipelago. Piſtachio nuts have a pleaſant, ſweet, unctuous taſte, reſembling that of almonds. They are ranked among the analeptics; and are much eſteemed in certain weakneſſes, and in emaciated habits.

NUX VOMICA [*Suec.*]
Strychnos nux vomica Lin.
Nux vomica.

This is the produce of a tree growing in the Eaſt Indies, where it is ſaid to be uſed as a ſpecific againſt the bite of a ſpecies of water-ſnake. It is conſiderably bitter and deleterious; but has been uſed in doſes of from five to ten grains twice a day in intermittents, particularly obſtinate quartans, and in contagious dyſentery. The *Strychnos Ignatii* is a tree of the ſame kind, producing gourd-like fruit, the ſeeds of which are improperly called St Ignatius's beans. Theſe, and alſo the woods or roots, of ſome ſuch trees, called lignum colubrinum or ſnakewood, are very narcotic bitters like the nux vomica.

NYMPHÆA ALBA [*Brun.*] *Radix, flores.*
Nymphæa alba Lin.
White water lily; the root and flowers.

This grows in ſlow running rivers and large lakes, flowering uſually in June. The roots and flowers have a rough, bitteriſh, glutinous, taſte (the flowers are the leaſt rough) and when freſh they have a diſagreeable ſmell, which is in great meaſure loſt by drying: they are recommended in alvine fluxes, gleets, and the like. The roots are ſuppoſed to be in a high degree narcotic, but on no very good foundation. Lindeſtolpe informs us, that in ſome parts of Sweden they were in times of ſcarcity uſed as food, and did not prove unwholſome.

OCHRA [*Brun.*]

Yellow ochre: a ſoft friable ore of iron, of a yellow colour dug in ſeveral parts of England. It poſſeſſes the virtues of the calces of iron and hæmatites; but in ſo low a degree, that the ſhops have deſervedly rejected it; its principal uſe is as a pigment.

OCULI CANCRORUM. See Cancer.

ŒNANTHE, *Radix, folia.*
Oenanthe crocata Lin.
Hemlock dropwort.

This is a large umbelliferous plant growing in ditches and other moiſt places.

This virulent plant has been long known as a moſt dangerous poiſon. Its roots or leaves eaten by miſtake have often proved fatal; occaſioning violent ſickneſs and vomiting, rigors, convulſions, delirium, and other terrible affections of the nervous ſyſtem.

Notwithſtanding theſe violent effects which it produces when taken in large quantities, its juice in the doſe of a drachm or two twice a day has been found ſingularly efficacious in removing inveterate ſcorbutic complaints. It has been a good deal employed at

Edinburgh, and in ſome caſes with apparent advantage. The late Dr Hope thought that in many caſes he found an infuſion of the leaves highly uſeful in promoting the menſtrual diſcharge. It does not ſeem to have yet found its way into any of our modern pharmacopœias; but it may be juſtly conſidered as meriting farther attention.

OLIBANUM [*Lond. Ed.*] *Gummi reſina.*

Juniperus Lycia Lin.

Olibanum.

This gummi reſinous ſubſtance is brought from Turkey and the Eaſt-Indies, uſually in drops or tears, like thoſe of maſtich, but larger, of a pale yellowiſh and ſometimes reddiſh colour, a moderately warm pungent taſte, and a ſtrong, not very agreeable ſmell. This drug has received many different appellations according to its different appearances: the ſingle tears are called ſimply *olibanum*, or *thus*: when two are joined together, they have been called *thus maſculum*, and when two were very large, *thus fœmininum*: ſometimes four or five, about the bigneſs of filberts, are found adhering to a piece of bark of the tree from which they exuded; theſe have been named *thus corticoſum*; the finer powder which rubs off from the tears in the carriage, *mica thuris*; and the coarſer powder, *manna thuris*. This drug is not however, in any of its ſtates, what is now called *thus* or *frankincenſe* in the ſhops.

Olibanum conſiſts of about equal parts of gummy and reſinous matters; the firſt ſoluble in water, the other in rectified ſpirit. With regard to its virtues abundance have been attributed to it, particularly in diſorders of the head and breaſt, in hæmoptoes, and in alvine and uterine fluxes: but its real effects in theſe caſes are far from anſwering the promiſes of the recommenders. Riverius is ſaid to have had large experience of the good effects of it in pleuriſies, eſpecially epidemic ones: he directs a ſcooped apple to be filled with a drachm of olibanum, then covered and roaſted under the aſhes; this is to be taken for a doſe, three ounces of carduus water drank after it, and the patient covered up warm in bed: in a ſhort time, he ſays, either a plentiful ſweat, or a gentle diarrhœa enſues, which carries off the diſeaſe.

OLIVA [*Lond. Ed.*] *Fructus Oleum expreſſum.*

Olea europea Lin.

Olive: the expreſſed oil of the fruit.

This tree grows in the ſouthern parts of France, in Spain, Italy, and other warm countries; with us it is uſually kept in the greenhouſes of the curious. Olives have an acrid, bitter, extremely diſagreeable taſte: pickled, as we receive them from abroad, they prove leſs diſagreeable; the Lucca olives, which are ſmaller than the others, have the weakeſt taſte; the Spaniſh, or larger, the ſtrongeſt: the Provence, which are of a middling ſize, are generally the moſt eſteemed.

The oil obtained from this fruit has no particular taſte or ſmell, and does not greatly differ in quality from oil of almonds. Authors make mention of two ſorts of this oil, one expreſſed from the olives when fully ripe, which is our common olive oil: the other before the fruit has grown ripe; this is called *oleum* *immaturum*, and *omphacinum*. Nothing is met with in the ſhops under this name; and Lemery affirms, that there is no ſuch oil; unripe olives, yielding only a viſcid juice to the preſs. From the ripe fruit, two or three ſorts are obtained, differing in degree of purity: the pureſt runs by light preſſure: the remaining magma, heated and preſſed more ſtrongly, yields an inferior ſort, with ſome dregs at the bottom, called *amurca*. All theſe oils contain a conſiderable portion of aqueous moiſture, and a mucilaginous ſubſtanee; which ſubject them to run into a putrid ſtate: to prevent this, the preparers add ſome ſea-ſalt, which imbibing the aqueous and mucilaginous parts, ſinks with them to the bottom; by this means the oil becomes more homogeneous, and conſequently leſs ſuſceptible of alteration. In its paſſage to us, ſome of the ſalt, thrown up from the bottom by the ſhaking of the veſſel, is ſometimes mixed with and detained in the oil, which, in our colder climate, becomes too thick to ſuffer it freely to ſubſide; and hence this oil is ſometimes found to have a manifeſt ſaline taſte. Olive oil is uſed in plaſters and ointments and other compoſitions for external uſes: it is alſo uſed internally in hoarſneſs, coughs, &c. either mixed with water into the form of an emulſion by means of alkalies, or mixed with ſyrups or conſerves into linctuſes.

OPIUM [*Lond. Ed.*] *Succus inſpiſſatus.*

Papaver ſomniferum Lin.

Opium.

This juice has not yet been collected in quantity in Europe. Egypt, Perſia, and ſome other provinces of Aſia, have hitherto ſupplied us with this commodity: in thoſe countries, large quantities of poppies are cultivated for this purpoſe. The opium prepared about Thebes in Egypt, hence named Thebaic opium, has been uſually eſteemed the beſt; but this is not now diſtinguiſhed from that collected in other places. This juice is brought to us in cakes or loaves, covered with leaves, and other vegetable matters, to prevent their ſticking together: it is of a ſolid conſiſtence, yet ſomewhat ſoft and tenacious, of a dark reddiſh brown colour in the maſs, and when reduced into powder, yellow; of a faint diſagreeable ſmell and a bitteriſh taſte, accompanied with a pungent heat and acrimony.

In the province of Bahar in the Eaſt Indies, the poppy ſeeds are ſown in October or November at about eight inches diſtance; and are well watered till the plants are about half a foot high, when a compoſt of nitrous earth, dung, and aſhes, is ſpread over the areas; and a little before the flowers appear, they are again watered profuſely till the capſules are half grown; and then the opium is collected; for when fully ripe, they yield little juice. Two longitudinal inciſions, from below upwards, without penetrating the cavity, are made at ſunſet for three or four ſucceſſive evenings. In the morning the juice is ſcraped off with an iron ſcoop, and worked in an earthen pot in the ſun's heat till it be of a proper conſiſtence to be formed into thick cakes of about four pounds weight, which are covered over with the leaves of poppy, and dried. It is ſaid to be adulterated with various unknown ſubſtances, with the extract of the poppy plant procured by boiling, and even with cow dung. It is purified by reducing it to a pulp with hot water, and ſtrongly preſſing it while hot, through a linen cloth from its impurities. It is then evaporated by a water-bath or other gentle heat to its original conſiſtence. This extract is found to contain a reſin, a kind of eſſential oil, a principle of odour, an eſſential ſalt, and a ſopy extract.

Opium has a browniſh colour; a ſtrong peculiar ſmell; a taſte at firſt nauſeous and bitter, but ſoon becoming acrid, with a ſlight warmth: and it appears to have ſome aſtringency, as a watery tincture of it forms an ink with a chalybeate ſolution.

The external and internal effects of opium appear to be various in different conſtitutions, and in the ſame at different times. By ſome, when applied to the tongue, the noſe, the eye, or any part deprived of ſkin, it has been ſaid to ſtimulate, and to induce, eſpecially in the eye, a ſlight degree of redneſs. But if this effect takes place, it is at the utmoſt extremely inconſiderable, particularly when compared with the effect of volatile alkali, ardent ſpirit, or a variety of other articles applied to the ſame organ: And there can be no doubt, that in a very ſhort time the ſenſibility of the part to which it is applied, even without the ſlighteſt mark of preceding ſtimulus or inflammation, is very conſiderably diminiſhed. Some allege, that when applied, to the ſkin, it allays pain and ſpaſm, procures ſleep, and produces all the other ſalutary, or dangerous, effects which reſult from its internal uſe; while others allege, that thus applied it has little or no effect whatever.

This variety probably ariſes from differences in the condition of the ſubcutaneous nerves, and of the ſenſibility of the ſurface as being more or leſs defended. But there is no doubt, that when mixed with cauſtic, it diminiſhes the pain, which would otherwiſe enſue, probably by deadening the ſenſibility of the part.

It ſometimes allays the pain in a carious tooth; and a watery ſolution of it has been uſed in various ulcers, certain ophthalmias, and virulent gonorrhœa, when pain and inflammation have given very great diſtreſs.

Opium, when taken into the ſtomach in a ſufficient doſe, gives riſe to a pleaſant ſerenity of mind, in general proceeding to a certain degree of languor and drowſineſs. The action of the ſanguiferous ſyſtem is diminiſhed, the pulſe becoming, for the moſt part, ſofter, fuller, and ſlower than it was before. A ſwelling of the ſubcutaneous veins, and ſweating, often takes place, both probably the conſequences of a diminution of reſiſtance at the ſurface, from a diminution of muſcular action; and accordingly opium diminiſhes thoſe diſcharges which depend on muſcular action, as is particularly exemplified in its effect of binding the belly. Opium taken into the ſtomach in a larger doſe, gives riſe to confuſion of head and vertigo. The power of all ſtimulating cauſes, as making impreſſions on the body, is diminiſhed; and even at times, and in ſituations when a perſon would naturally be awake, ſleep is irreſiſtibly induced. In ſtill larger doſes, in acts in the ſame manner as the narcotic poiſons, giving riſe to vertigo, headach, tremors, delirium, and convulſions; and theſe terminating in a ſtate of ſtupor, from which the perſon cannot be rouſed. This ſtupor is accompanied with ſlowneſs of the pulſe, and with ſtertor in breathing, and the ſcene is terminated in death, attended with the ſame appearances as take place in an apoplexy.

From theſe effects of opium in a ſtate of health, it is not wonderful that recourſe ſhould have been had to it in diſeaſe, as mitigating pain, inducing ſleep, allaying inordinate action, and diminiſhing morbid ſenſibility. That theſe effects reſult from it, is confirmed by the daily experience of every obſerver; and as anſwering one or other of theſe intentions, moſt, if not all, of the good conſequences derived from it in actual practice are to be explained. If, therefore, by a ſedative medicine we mean an article capable of allaying, aſſuaging, mitigating, and compoſing, no ſubſtance can have a better title to the appellation of ſedative than opium.

Some practitioners are averſe to its uſe where an active inflammation takes place; but others have recourſe to it in ſuch caſes, even at an early period, eſpecially after blood-letting; and where ſuch affections are attended not only with pain and ſpaſm, but with watchfulneſs and cough, it is often productive of the greateſt benefit. Opium combined with calomel has of late been extenſively employed in every form of active inflammation, and with the greateſt ſucceſs. It is found alſo to be of very great ſervice in allaying the pain and preventing the ſymptomatic fever liable to be induced by wounds, fractures, burns, or ſimilar accidents.

In intermittents, it is ſaid to have been uſed with good effect before the fit, in the cold ſtage, in the hot ſtage, and during the interval. Given even in the hot ſtage, it has been obſerved to allay the heat, thirſt, head-ach, and delirium, to induce ſweat and ſleep, to cure the diſeaſe with the leſs bark, and without leaving abdominal obſtructions or dropſy.

It is often of very great ſervice in fevers of the typhoid type, when patients are diſtreſſed with watchfulneſs or diarrhœa. But where theſe or ſimilar circumſtances do not indicate its uſe, it is often diſtreſſing to patients by augmenting thirſt and conſtipation.

In ſmall-pox, when the convulſions before eruption are frequent and conſiderable, opium is liberally uſed. It is likewiſe given from the fifth day onwards; and is found to allay the pain of ſuppuration, to promote the ptyaliſm, and to be otherwiſe uſeful.

In dyſentery, after the uſe of gentle laxatives, or along with them, opium, independently of any effect it may have on the fever, is of conſequence in allaying the tormina and teneſmus, and in obviating that laxity of bowels which is ſo frequently a relict of that diſeaſe.

In diarrhœa, the diſeaſe itſelf generally carries off any acrimony that may be a cauſe, and then opium is uſed with great effect. Even in the worſt ſymptomatic caſes it ſeldom fails to alleviate.

In cholera and pyroſis, it is almoſt the only thing truſted to.

In colic, it is employed with

laxatives; and no doubt often prevents ileus and inflammation, by relieving the ſpaſm. Even in ileus and in incarcerated hernia, it is often found to allay the vomiting, the ſpaſms, the pain, and ſometimes to diminiſh the inflammation, and prevent the gangrene of the ſtrangulated gut.

It is given to allay pain and to favour the deſcent of calculi through the ureters, and to relieve the ſymptoms proceeding from ſpaſm in jaundice and dyſuria.

It is of acknowledged uſe in the different ſpecies of tetanus; affords relief to the various ſpaſmodic ſymptoms of dyſpepſia, hyſteria, hypochondriaſis, aſthma, rabies canina, &c. and has been found uſeful in ſome kinds of epilepſy.

Of late, in doſes gradually increaſed to five grains, three, four, or even ſix times a day, it has been uſed in ſyphilis; and ſome inſtances are recorded, in which it would ſeem that by this remedy alone, a complete cure has been obtained. In other inſtances, however, after the faireſt trial for a conſiderable length of time, it has been found ineffectual; and on the whole, it ſeems rather to be uſeful in combating ſymptoms, and in counteracting the effects reſulting from the improper uſe of mercury, than in overcoming the venereal virus.

It is found uſeful in certain caſes of threatened abortion and lingering delivery, in convulſions during parturition, and in the after pains and exceſſive flooding.

The only form perhaps neceſſary for opium is that of pill; and as it is ſo ſoluble in every menſtruum, there ſeems the leſs occaſion for the addition of either gum or ſope. This form is more apt to ſit on the ſtomach than any liquid form, but requires rather more time to produce its effects. The adminiſtration of opium to the unaccuſtomed is ſometimes very difficult. The requiſite quantity of opium is wonderfully different in different perſons, and in different ſtates of the ſame perſon. A quarter of a grain will in one adult produce effects which ten times that quantity will not do in another; and a doſe that might prove fatal in cholera or colic, would not be perceptible in many caſes of tetanus or mania. The loweſt fatal doſe to the unaccuſtomed, as mentioned by authors, ſeems to be four grains; but even this is a dangerous doſe. When given in too ſmall a doſe, it is apt to produce diſturbed ſleep, and other diſagreeable conſequences; and in ſome caſes it ſeems impoſſible to be made to agree in any doſe or form. Often, on the other hand, from a ſmall doſe, ſound ſleep, and alleviation of pain will be produced, while a large one gives riſe to vertigo and delirium. Some phyſicians prefer the repetition of ſmall doſes, others the giving of a full doſe at once. In ſome caſes it ſeems not to have its proper effect till after a conſiderable time. The operation of a moderate doſe generally laſts about eight hours from the time of taking it.

Pure opium is partially ſoluble in water and in rectified ſpirit, and totally in proof ſpirit, wine, or vinegar. Water rubbed with opium, and decanted repeatedly till it come off colourleſs, yields, on gentle evaporation, an extract which ſome practitioners uſe and recommend as one of the beſt preparations of this ſubſtance, and which requires to be given in double the doſe of common opium.

It is ſaid, that alkalies diminiſh its ſoporific effects; that the fixed render it diuretic, the volatile determine it to the ſkin: and that acids deſtroy its activity almoſt entirely; when however it is conjoined with acids, particularly the diluted vitriolic acid, it often ſits eaſily on the ſtomach, when it would not otherwiſe be retained, and afterwards produces all its ſedative effects.

The chief officinal preparations of opium are, the *Opium purificatum*, *Pilulæ ex opio*, *Pulvis opiatus*, *Tinctura opii*, *Tinctura opii ammoniata*. Beſides theſe it enters a great variety of different compoſitions, as the *Pulvis Ipecacuanha compoſitus*, *Linimentum Opiatum*, *Electuarium catechu*, &c.

The occaſional bad effects of opium may reſult from the ſame power by which, in other ſtates of the ſyſtem, it proves beneficial. The methods, therefore, propoſed of correcting theſe by roaſting, fermentation, long continued digeſtion, repeated ſolutions and diſtillations, have not ſucceeded.

OPOPANAX [*Lond.*] *Gummi reſina.*

Paſtinaca Opopanax Lin.

Opopanax.

This is a concrete gummy reſinous juice, obtained from the roots of an umbelliferous plant, which grows ſpontaneouſly in the warmer countries, and bears the colds of this. The juice is brought from Turkey and the Eaſt Indies, ſometimes in round drops or tears, but more commonly in irregular lumps, of a reddiſh yellow colour on the outſide with ſpecks of white, inwardly of a paler colour, and frequently variegated with large white pieces. It has a peculiar ſtrong ſmell, and a bitter, acrid, ſomewhat nauſeous taſte. Boerhaave frequently employed it, along with ammoniacum and galbanum, in hypochondriacal diſorders, obſtructions of the abdominal viſcera, and ſuppreſſions of the menſtrual evacuations: with theſe intentions it is an uſeful ingredient in the *Pilulæ gummoſæ* and compound powder of myrrh of the London pharmacopœia, but it is not employed in any compoſition of the Edinburgh; nor is it in the Edinburgh materia medica. It may be given by itſelf in the doſe of a ſcruple, or half a drachm: a whole drachm proves, in many conſtitutions, gently purgative.

ORCHIS. See SATYRION.

ORIGANUM [*Lond*] *Herba.*

Origanum vulgare Lin.

Wild marjoram; the herb.

This is met with upon dry chalky hills and in gravelly ſoils, in ſeveral parts of England. It has an agreeable ſmell, and a pungent taſte, warmer than that of the garden marjoram; and much reſembling thyme, which it ſeems to agree with in virtue. An eſſential oil diſtilled from it is kept in the ſhops.

There is another ſort of *origanum* called *Creticum*, whoſe flowers, or rather flowery tops, are ſometimes brought to us from Candy; theſe have an agreeable aromatic flavour, ſomewhat ſtronger than the common ſort.

ORYZA [*Brun.*] *Semen.*

Oryza ſativa Lin.

Rice; the grain.

Rice is the product of many different countries, particularly of the Eaſt Indies: but, as uſed in Britain, it is brought chiefly from Carolina, where the plant is cultivated in larger quantities. It is ſufficiently nutritious, and affords an uſeful food in diarrhœas, dyſenteries, and other diſorders.

OSTREA [Lond.] *Teſta.*
Oſtrea edulis Lin
Oyſter ſhell.

The ſhells of the oyſter, like thoſe of other ſimilar fiſh, are calcareous earth with ſome animal gluten. They poſſeſs no medicinal virtue ſuperior to common limeſtone and chalk; and the only reaſon that can be aſſigned for uſing them is, that they afford a quicklime which is perfectly free from any taint of metallic or other mineral ſubſtance.

OVIS [*Lond*] *ſevum.*
SEVUM OVILLUM [*Edin.*]
Ovis Aries Lin.
Mutton ſuet.

This article is uſed merely for the ſake of giving a proper conſiſtency to ointments, liniments, and plaſters, and as a baſis for theſe kind of compoſitions. Like other animal fats, it is lubricating and relaxing; and is ſometimes employed for that purpoſe, being externally applied to take off the rigidity of certain parts, or to promote perſpiration by relaxing the ſkin.

OVUM [*Lond.*]
Ovum gallinaceum Lin.
Hens egg

Both the yolk and the white of eggs are uſed to give a proper form to different medicines, and are for that purpoſe employed in ſome of the officinal preparations, as in the *coagulum aluminis.* But they do not ſeem to poſſeſs any medical virtues, unleſs as an article of diet; and uſed with that intention they are highly nutritious. Egg-ſhells when burnt become quick lime, and as ſuch they have ſometimes been uſed in medicine; but they differ in no reſpect from the other calcareous earths.

OXALIS. See ACETOSA.

OXYACANTHA GALENI. See BERBERIS.

OXYLAPATHUM. See HYDROLAPATHUM.

PÆONIA [*Suec.*] *Radix, ſemen.*
Pæonia officinalis Lin.
Male and female peony; the root and ſeed.

Theſe plants are cultivated in our gardens on account of the beauty of their flowers; the female which is the largeſt and moſt elegant, and for this reaſon the moſt common, is the only one with which the ſhops are ſupplied. In quality they are ſcarcely ſenſibly different; and hence they may be taken promiſcuouſly. The roots and ſeeds of peony have, when recent, an unpleaſant ſcent, approaching to that of the narcotic plants, and a ſomewhat glutinous ſubacid taſte, with a ſlight degree of bitterneſs and aſtringency; the leaves alſo diſcover an aſtringent quality, both to the taſte and by changing chalybeate ſolutions to a purple colour: the flowers have little taſte, and a very faint, not agreeable ſmell. The parts which have been chiefly uſed for medicinal purpoſes are the roots and ſeeds. They are conſidered as emollient, corroborant, and ſlightly anodyne; and ſuppoſed to be of ſervice in ſome kinds of obſtructions, eroſions of the viſcera, heat of urine, pains in the kidneys, &c. The virtue they are chiefly celebrated for, is that of curing ſpaſmodic and epileptic complaints; which many have been abſurd enough to believe that the roots and ſeeds of this plant would do by being only worn about the neck.

PALMA [*Ed.*] *Fructus oleum expreſſum.*

Palm-tree; the expreſſed oil of the fruit.

This oil is obtained from the kernels of the fruit of a ſpecies of palm tree, which is a native of the coaſt of Guinea and Cape Verd iſlands: from theſe places it has been tranſplanted into Jamaica and Barbadoes. The oil, as brought to us, is about the conſiſtence of an ointment, and of an orange colour; it has a ſtrong, agreeable ſmell, but very little taſte: by long keeping it loſes its high colour, and becomes white, when it ought to be rejected as no longer fit for uſe. The inhabitants of the Guinea coaſt are ſaid to make this oil part of their food, and to employ it for the ſame purpoſes as we do butter. With us it is rarely given inwardly, and uſed only in ſome external applications for pains, cramps, ſprains, and the like. The common people apply it for the cure of chilblains, and when early uſed it is not without ſucceſs.

PAPAVER ALBUM [*Lond. Ed.*] *Capſula.*

Papaver ſomniferum Lin.

The white poppy; the ſeed-pod.

Poppy heads, boiled in water impart to the menſtruum their narcotic juice. The liquor ſtrongly preſſed out, ſuffered to ſettle, clarified with white of eggs, and evaporated to a due conſiſtence, yields about one fifth, or one-ſixth the weight of the heads, of extract. This poſſeſſes the virtues of opium; but requires to be given in double its doſe to anſwer the ſame intention, which it is ſaid to perform without occaſioning a nauſea and giddineſs, the uſual conſequences of the other. A ſtrong decoction of the heads, mixed with as much ſugar as is ſufficient to reduce it into the conſiſtence of a ſyrup, becomes fit for keeping in a liquid form: and is the only officinal preparation of the poppy. Both theſe preparations are very uſeful ones, though liable to variation in point of ſtrength; nor does this inconvenience ſeem avoidable by any care in the preſcriber or the operator; ſince the poppy heads themſelves, according to the degree of maturity and the ſoil and ſeaſon of which they are the produce, contain different proportions of the narcotic matter to the other juices of the plant.

The ſeeds of the poppy are by many reckoned ſoporific: Juncker ſays, they have the ſame quality with thoſe of the hyoſcyamus, and Herman looks upon them as a a good ſubſtitute for opium; miſled probably by an obſervation which holds in many plants, that the ſeeds are more efficacious than the veſſels in which they are contained. The ſeeds of the poppy have nothing of the narcotic juice, which is lodged in their covering and in the ſtalks: an oil expreſſed from them has been uſed for the ſame purpoſes as olive oil; and the ſeeds themſelves have been taken as food: their taſte is ſweetiſh and farinaceous.

PAPAVER ERRATICUM [*Lond*.] *Flos.*

Papaver Rhœas Lin.

Red poppy; the flower.

The flowers of this plant yield upon expreſſion a deep red juice, and impart the ſame colour by infuſion to aqueous liquors A ſyrup of them is kept in the ſhops; this is valued chiefly for its colour; though ſome expect from it a ſlightly anodyne virtue.

PAREIRA BRAVA [*Lond.*]

Ciſſampelos Pareira Lin.

Pareira brava; the root.

This is the root of an American plant brought to us from Brazil, in pieces of different ſizes, ſome no bigger than one's finger, others as large as a child's arm; it is crooked, and variouſly wrinkled on the ſurface; outwardly of a dark colour, internally of a dull yellowiſh, and interwoven with woody fibres; ſo that, upon a tranſverſe ſection, a number of concentric circles appear, croſſed with fibres, which run from the centre to the circumference: it has no ſmell; the taſte is a little bitteriſh, blended with a ſweetneſs like that of liquorice. This root is highly extolled by the Brazilians and Portugueſe, in a variety of diſeaſes, particularly againſt ſuppreſſions of urine, nephritic pains, and the calculus. In the two firſt, Geoffroy ſays he has given it with good ſucceſs; and that the patient was almoſt inſtantly relieved by it, a copious diſcharge of urine ſucceeding. He likewiſe obſerved large quantities of gravel and ſmall ſtones voided after its uſe: this effect he attributes not to any lithontriptic power, but to its diſſolving the viſcid mucus by which the ſabulous matter had been detained. He likewiſe relates, that he has had frequent experience of the good effects of this root in deterging and healing ulcers of the kidneys and bladder, where the urine came away purulent and mucous, and could not be voided at all without extreme pain: by the uſe of the *pareira*, the urine ſoon became clear, of a due conſiſtence, and was evacuated freely: and by joining to this medicine balſam of Copaiba, the ulcer perfectly healed. In humoral aſthmas, where the lungs are ſtuffed up, and the patient almoſt ſuffocated by thick phlegm, an infuſion of *pareira*, after many other medicines had proved ineffectual, occaſioned a plentiful expectoration, and ſoon completed a cure: in the jaundice proceeding from thick bile, it did excellent ſervice: but in another icterical caſe, where the liver was ſwelled and hard, this medicine did no good. His doſe of the root in ſubſtance is from twelve grains to half a drachm; in decoction to two or three drachms.

Theſe good effects, however, have not been confirmed by later experience; and at preſent it is ſo little uſed, that the Edinburgh college have given it no place in their pharmacopœia.

PARIETARIA [*Lond. Ed.*] *Herba.*

Parietaria officinalis Lin.

Pillitory of the wall; the herb.

This is a ſmall plant growing upon old walls; of an herbaceous ſubſaline taſte, without any ſmell. It is an emollient, and with this intention is occaſionally uſed. The expreſſed juice has been given in the doſe of three ounces as a diuretic.

PASTINACA [*Suec.*] *Semen.*
Paſtinaca ſativa Lin
Parſneps; the ſeeds.

The roots of the parſnep are uſed as food, and prove ſufficiently nutritious. The ſeeds are ſlightly aromatic; and from that circumſtance are ſometimes, although rarely, employed in medicine.

PENTAPHYLLUM [*Lond.*] *Radix.*
Potentilla reptans Lin.
Cinquefoil; the roots.

This grows plentifully in hedges and by the road ſides. The root is moderately aſtringent; and as ſuch is ſometimes given internally in diarrhœas and other fluxes, and employed in gargariſms for ſtrengthening the gums, &c. The cortical part of the root may be taken, in ſubſtance, to the quantity of a drachm; the internal part is conſiderably weaker, and requires to be given in double the doſe to produce the ſame effect; but as we poſſeſs many more powerful aſtringents, the cinquefoil is but little uſed.

PERSICARIA [*Suec.*] *Herba.*
Polygonum Hydropiper Lin.
Water pepper; the leaves.

This ſpecies of polygonum is remarkable for its pungent, biting, pepper-like taſte. Its virtues are thoſe of an acrid ſtimulating medicine; in phlegmatic habits, it promotes the urinary diſcharge, and has frequently done good ſervice in ſcorbutic complaints. The freſh leaves are ſometimes applied externally for cleanſing old fiſtulous ulcers, and conſuming fungous fleſh; for theſe purpoſes they are ſaid to be employed by the farriers, among whom they have been principally uſed.

PERSICA [*Brun.*] *Flos, nuclei.*
Amygdalus perſica Lin.
The peach-tree; its flowers and kernels.

Peach flowers have an agreeable ſmell, and a bitteriſh taſte: diſtilled, without any addition, by the heat of a water-bath, they yield one ſixth of their weight, or more, of a whitiſh liquor, which communicates to a large quantity of other liquids a flavour like that of the kernels of fruits. An infuſion in water of half an ounce of the freſh gathered flowers, or a drachm of them when dried, ſweetened with ſugar, proves for children an uſeful laxative and anthelmintic: the leaves of the tree are, with this intention, ſomewhat more efficacious, though leſs agreeable. The fruit has the ſame quality with the other ſweet fruits, that of abating heat, quenching thirſt, and gently looſening the belly.

PETASITIS [*Roſs.*] *Radix.*
Tuſſilago Petaſitis Lin.
Butterbur; the root.

This grows wild, by the ſides of rivers and in moiſt meadows: it ſends forth ſhort ſcaly ſtalks in the ſpring, bearing ſpikes of purpliſh flowers; after this the leaves appear, which are very large and hollowed about the middle, ſo as to reſemble a bonnet, or what the Greeks called πετάσος, whence the name of the plant. The roots have a ſtrong ſmell; a bitteriſh, aromatic, not very agreeable, taſte; they have been given in the doſe of a drachm or more as an aromatic, and likewiſe as an aperient and deobſtruent; theſe virtues, however, they poſſeſs in ſo low a degree, as to have loſt their reputation in the ſhops.

PETROLEUM [*Lond.*]
PETROLEUM BARBADENSE [*Edin.*]

Bitumen petroleum.

Rock oil, Barbadoes tar.

This is a general name for ſundry liquid bitumens, or mineral oils, which ſpontaneouſly exude from the earth or from clefts of rocks. Theſe oils are found in almoſt all countries, but in greateſt quantities in the warmer ones: ſome are met with in different parts of England; and many of our common bituminous minerals, as pit coal, &c. afford, on diſtillation, oils not greatly different from them.

The fineſt ſort of this commodity comes from the duchy of Modena in Italy, where three different kinds are found; the beſt is almoſt as clear, fluid and tranſparent as water, of a highly penetrating, yet not diſagreeable ſmell, ſomewhat like that of rectified oil of amber; the ſecond ſort is of a clear yellow colour, not ſo fluid as the former, leſs penetrating, and partaking more of the oil of amber ſmell; the third, or worſt, is of a blackiſh red colour, of a thicker conſiſtence, and more diſagreeable than the two foregoing. The firſt of theſe is very rarely met with in the ſhops; the ſecond, mixed with a little of the third and ſome ſubtile oil, is uſually ſent us inſtead of it. Petroleum readily catches fire, and if pure burns entirely away: diſtilled, it becomes ſomewhat more pellucid than before, a ſmall quantity of yellowiſh matter remaining, and it greatly loſes its natural ſmell: it unites with the eſſential oils of vegetables; but not at all with vinous ſpirits: the finer ſorts are ſo light as to ſwim upon the moſt highly rectified ſpirit of wine.

Petroleum is at preſent very rarely employed as a medicine, though if the finer kinds could be procured genuine, they ſhould ſeem to deſerve ſome notice: they are more agreeable than the oil of amber, and milder than that of turpentine; of the virtues of both which they participate. They are principally recommended by authors for external purpoſes, againſt pains and achs, in paralytic complaints, and for preventing chilblains. For theſe intentions, ſome of the more common mineral oils have been uſed with good ſucceſs: an oil extracted from a kind of foſſil coal has been cried up among the common people, under the name of Britiſh oil, for rheumatic pains, &c. even this is often counterfeited by a ſmall portion of oil of amber added to the common expreſſed oils.

The Barbadoes tar is thicker than moſt petrolea, and nearly of the conſiſtence of common tar. It is of a reddiſh black colour, a diſagreeable ſmell, leſs pungent than the other ſorts. This bitumen is found in ſeveral of the Weſt-India iſlands, where it is eſteemed by the inhabitants of great ſervice as a ſudorific, and in diſorders of the breaſt and lungs; though in caſes of this kind, attended with inflammation, it is certainly improper; they likewiſe apply it externally as a diſcutient, and for preventing paralytic diſorders.

PETROSELINUM [*Lond. Ed.*] *Radix, ſemen.*

Apium petroſelinum Lin.

Parſley; the root and ſeed.

This plant is commonly cultivated for culinary purpoſes. The ſeeds have an aromatic flavour, and are occaſionally uſed as carminatives,

natives, &c. The root is ſometimes made an ingredient in apozems and diet-drink: if liberally uſed, it is apt to occaſion flatulencies; and thus, by diſtending the viſcera, produces a contrary effect to that intended by it: the taſte of this root is ſomewhat ſweetiſh, with a ſlight degree of warmth and aromatic flavour.

PIMENTO [*Lond.*] *Bacca.*
PIMENTA [*Ed.*] *baccæ.*
Myrtus Pimenta Lin.

Pimento, or Jamaica pepper; the berry.

The ſmell of this ſpice reſembles a mixture of cinnamon, cloves, and nutmegs: its taſte approaches to that of cloves, or a mixture of the three foregoing; whence it has received the name of *all ſpice.* The ſhops have been for ſome time accuſtomed to employ this aromatic as a ſuccedaneum for the more coſtly ſpices, and from them it has been introduced into our hoſpitals.

Pimento is now in our pharmacopœias the baſis of a diſtilled water, a ſpirit, and an eſſential oil; all of which are frequently employed where aromatics are indicated.

PIMPINELLA [*Ed.*] *Radix.*
Pimpinella ſaxifraga Lin.

Burnet ſaxifrage; the root.

Of this plant ſeveral varieties had formerly a place in our pharmacopœias: but all of them ſeem to be poſſeſſed of the ſame qualities, and to differ only in external appearance.

The roots of pimpinella have a grateful, warm, very pungent taſte, which is entirely extracted by rectified ſpirit: in diſtillation, the menſtruum ariſes, leaving all that it had taken up from the root, united into a pungent aromatic reſin. This root promiſes, from its ſenſible qualities, to be a medicine of conſiderable utility; though little regarded in common practice. Stahl, Hoffman, and other German phyſicians, are extremely fond of it, and recommend it as an emollient, ſtomachic, reſolvent, detergent diuretic, diaphoretic, and alexipharmic. They frequently give it, and not without ſucceſs, in ſcorbutic and cutaneous diſorders, tumours and obſtructions of the glands, and diſeaſes proceeding from a deficiency of the fluid ſecretions in general Boerhaave directs its uſe in aſthmatic and hydropic caſes, where the ſtrongeſt reſolvents are indicated: the form he prefers is a watery infuſion; but the ſpirituous tincture poſſeſſes the virtues of the root in much greater perfection.

PIPER INDICUM [*Lond.* *Ed.*] *Fructus*
Capſicum annuum Lin.

Guinea-pepper, or capſicum; the fruit.

This is an annual plant cultivated in our gardens; it ripens its red pods in September or October. The taſte of capſicum is extremely pungent and acrimonious, ſetting the mouth as it were on fire. It is rarely uſed in medicine, being chiefly employed for culinary purpoſes. And there can be little doubt that it furniſhes us with one of the pureſt and ſtrongeſt ſtimulants which can be introduced into the ſtomach; while at the ſame time, it has nothing of the narcotic effect of ardent ſpirit. Its doſe is ſix or eight grains in the form of pills, or from one to three drachms of tincture made by infuſing half an ounce of it in a pound of rectified ſpirit. Dr Adair has found it uſeful in a variety of caſes, particularly in that morbid diſpoſition which he calls the *cachexia Africana*, and which he conſiders as a moſt frequent and fatal prediſpoſition to diſeaſe among the ſlaves. It has alſo been ſucceſsfully employed in a ſpecies of cynanche maligna, which proved very fatal in the Weſt Indies, reſiſting the uſe of Peruvian bark, wine, and the other remedies commonly employed.

A ſpecies of it, called in the Weſt Indies *bird pepper*, is the baſis of a powder brought from thence under the name of *Cayan pepper*.

PIPER LONGUM [*Lond. Ed.*] *Fructus.*

Piper longum Lin.

Long pepper.

Long pepper is the fruit of a plant growing in the Eaſt Indies. It is of a cylindrical figure, about an inch and a half long; the external ſurface appears compoſed of numerous minute grains placed round the fruit in a kind of ſpiral direction.

PIPER NIGRUM [*Lond. Ed.*] *Bacca.*

Piper nigrum Lin.

Black-pepper; the berry.

Black pepper is the fruit of a plant growing in Java and Malabar, gathered probably before it be fully ripe, and exſiccated in the ſun.

All the ſpecies of pepper have a pungent ſmell, and a very hot biting taſte. The long ſort, which is the hotteſt and ſtrongeſt is moſt frequently uſed for medicinal purpoſes; the black, as being more grateful, for culinary ones. The warmth and pungency of theſe ſpices reſide chiefly in their reſinous parts; and their aromatic odour in an eſſential oil. The genuine diſtilled oil ſmells ſtrong of the pepper, but has very little acrimony; the remaining decoction, inſpiſſated, yields an extract conſiderably pungent. A tincture made in rectified ſpirit is extremely hot and fiery; a few drops of it ſet the mouth as it were in a flame.

PIX BURGUNDICA [*Lond. Ed.*]

Pinus abies Lin.

Burgundy pitch.

This is of a ſolid conſiſtence, yet ſomewhat ſoft, of a reddiſh brown colour, and not diſagreeable in ſmell. Geoffroy relates, that it is compoſed of galipot (a ſolid white reſin which ſeparates from ſome of the *terebinthinæ*, as they run from the tree) melted with common turpentine and a little of its diſtilled oil. Dale informs us, from the relation of a gentleman who ſaw the preparation of this commodity in Saxony, (from whence we are chiefly ſupplied with it,) that it is no more than the common turpentine boiled a little.

It is employed only externally. It was formerly an ingredient in ſeveral ointments and plaſters, but from theſe it is now rejected; and at preſent it is uſed only by itſelf as a warm plaſter. In ſome caſes it excites even veſications; but in general it produces only redneſs of the part to which it is applied, with a ſlight degree of moiſture exuding from it: and in conſequence of theſe ſtimulating effects it is often ſerviceable in caſes of coughs, rheumatiſms. &c.

PIX LIQUIDA [*Lond. Ed.*]

Pinus ſylveſtris Lin.

Tar.

This a thick black empyreumatic oil obtained from the roots of old pines by diſtillation. It differs from the native reſinous juice of the trees, in having a diſagreeable empyreumatic quality, and in containing a proportion of the ſaline and other juices united with the reſinous and oily. By the mediation of theſe a part of the terebinthinate oil proves ſoluble in aqueous liquors, which extract little or nothing from the purer turpentine. In conſequence of which, water digeſted with tar, becomes, by being impregnated with this hot and pungent oil, warm and ſtimulating. It has been ſaid not only to raiſe the pulſe, and quicken circulation, but to increaſe the vis vitæ; and at one time it was highly extolled as a remedy of the utmoſt utility, particularly in cold phlegmatic habits. It is now, however, very generally allowed, that it is by no means intitled to the high character which was once given of it, and at preſent it is very little employed.

PLANTAGO [*Ed.*] *Folia.*

Plantago major Lin.

Common great plantain; the leaves.

The leaves are ſlightly aſtringent, and the ſeeds ſaid to be ſo; and hence they ſtand recommended in hæmorrhagies and other caſes where medicines of this kind are proper. The leaves bruiſed a little are the uſual application of the common people to ſlight fleſh wounds.

Plantain has been alleged to be a cure for the bite of the rattleſnake: but probably without much foundation, although it is one of the principal ingredients in the remedy of the Negro Cæſar, for the diſcovery of which he received a conſiderable reward from the aſſembly of South Carolina.

PLUMBUM [*Lond.*]

Lead.

This is the heavieſt of the metals, except gold, platina and quickſilver: it melts in a moderate heat, and if kept in fuſion, is ſoon converted partly into fume, and partly into an aſh coloured calx, *plumbum uſtum*; this expoſed to a ſtronger fire, in ſuch a manner that the flame may play upon its ſurface, becomes firſt yellow, and afterwards of a deep red, *minium* or red lead: if in this proceſs the fire be ſuddenly raiſed to a conſiderable height, the calx melts, aſſumes the appearance of oil, and on cooling forms a ſoft leafy ſubſtance of a yellowiſh or reddiſh colour, *Lithargyrus* or litharge; of theſe there are two kinds, one of a deep orange or reddiſh colour, formerly call *lithargyrus auri*, and the other of a paler colour called *Lithargyrus argenti.* The proper menſtruum of this metal is aquafortis: the vegetable acids likewiſe diſſolve it, but in very ſmall quantity: a quart of diſtilled vinegar will not take up a drachm of lead; expoſed to the ſteam of vinegar, it is by degrees corroded into a white powder, *ceruſſa,* which is conſiderably more eaſy of ſolution. The calces of lead diſſolve by heat, in expreſſed oils; theſe mixtures are the baſis of ſeveral officinal plaſters and ointments. Cryſtals obtained from a ſolution of this metal in diſtilled vinegar, are called from thei ſweetiſh taſte, *ſugar* of lead; t more properly *plumbum acetatum* or *ceruſſa acetata.*

Preparations of lead, given internally, are ſuppoſed to incraſſate the fluids, abate inflammations, and reſtrain venereal deſires. The acetated lead is a ſtrong aſtringent, and has been uſed, it is ſaid, with good ſucceſs in hæmorrhagies, fluor albus, ſeminal gleets, &c. A tincture of it is recommended for the like purpoſes; and for checking immoderate ſweats in phthiſical caſes; whence it has been called *tinctura antiphthiſica.* The internal uſe of this metal is nevertheleſs dangerous, and ought never to be ventured on unleſs in deſperate caſes, after other medicines have been employed without effect: it often occaſions violent colics; and though it ſhould not prove immediately hurtful, its ill conſequences are ſure, though ſlow: tremors, ſpaſms, or lingering tabes, too frequently follow.

The preparations of lead with vinegar are much uſed externally in inflammation, with great ſucceſs; but of theſe we ſhall ſpeak more particularly afterwards. See Part III. Chap. 14. on the preparations of lead.

POLYPODIUM [*Suec.*] *Radix.*

Polypodium vulgare Lin.

Polypody; the root.

Polypody is a capillary plant, growing on old walls, the trunks of decayed trees, &c. That found upon the oak is generally preferred, though not ſenſibly different from the others. The roots are long and ſlender, of a reddiſh brown colour on the outſide, greeniſh within, and full of ſmall tubercles, which reſemble the feet of an inſect; whence the name of the plant; the taſte of theſe roots is ſweetiſh and nauſeous.

Polypody has been employed in medicine for many ages; nevertheleſs its virtues yet remain to be determined. The antients held it to be a powerful purger of melancholic humours; by degrees, it came to be eſteemed an evacuator of humours in general: at length it was ſuppoſed only to gently looſen the belly; and afterwards even this quality was denied it; ſucceeding phyſicians declared it to be aſtringent; of this number is Boerhaave, who eſteems it moderately ſtyptic and antiſcorbutic.

POMPHOLYX [*Suec.*]

This is an impure calx of zinc, produced in the furnaces where copper is made into braſs by calamine, the ore of zinc. It is found adhering to the covers of the crucibles, to the ſides of the furnaces in the vents, &c. either in form of thin cruſts, or of a light downy matter, generally of a pure white colour, though ſometimes yellowiſh. See Zincum.

POPULUS [*Brun.*] *Gemma.*

Populus niger Lin.

The black poplar; its buds.

The black poplar is a large tree growing wild in watery places; it is eaſily raiſed, and of very quick growth. The young buds or rudiments of the leaves, which appear in the beginning of ſpring abound with a yellow, unctuous, odorous juice. They have hitherto been employed chiefly in an ointment, which received its name from them; though they are certainly capable of being applied to other purpoſes: a tincture of them made in rectified ſpirit yields when inſpiſſated a fragrant reſin ſuperior to many of thoſe brought from abroad. The black poplar, however, affords a much weaker flavoured reſin, and in conſiderable leſs quantity than another ſpecies known by the name of Tacamahaca, for an account of which, ſee TACAMAHACA.

PRUNELLA [*Brun.*] *Herba.*

Prunella vulgaris Lin.
Self-heal; the plant.

This plant grows wild in meadows and paſture grounds, and produces thick ſpikes of purpliſh flowers during the latter part of the ſummer. It has an herbaceous roughiſh taſte: and hence ſtands recommended in hæmorrhagies and alvine fluxes: it has been principally celebrated as a vulnerary, whence its name; and in gargariſms, for aphthæ, and inflammations of the fauces.

PRUNUS GALLICA [*Lond. Ed.*] *Fructus.*

Prunus domeſtica Lin.
The common prune.

The medical effects of the common prunes are, to abate heat, and gently looſen the belly; which they perform by lubricating the paſſage, and ſoftening the excrement. They are of conſiderable ſervice in coſtiveneſs, accompanied with heat or irritation, which the more ſtimulating cathartics would tend to aggravate: where prunes are not of themſelves ſufficient, their effects may be promoted by joining them with a little rhubarb or the like; to which may be added ſome carminative ingredient to prevent their occaſioning flatulencies.

PRUNUS SYLVESTRIS [*Lond. Ed.*]

Prunus ſpinoſa Lin.
The ſloe.

Theſe have a very rough auſtere taſte, eſpecially before they have been mellowed by froſts. The juice of the unripe fruits inſpiſſated to a proper conſiſtence, is called *acacia Germanica*, and uſually ſold in the ſhops for the true Egyptian acacia: it is equally aſtringent with the Egyptain ſort: but has more of a ſharp or tartiſh taſte, without any thing of the ſweetiſh reliſh of the other. A conſerve of the fruit is directed by the London college.

PSYLLIUM [*Suec.*] *Semen.*

Plantago Pſyllium Lin.
Fleawort; the ſeeds.

This is a ſort of plantain, grows wild in the warmer climates, and is ſometimes met with in our gardens: it differs from the common plantains in having its ſtalks branched, with leaves upon them. The ſeeds have been uſually brought from the ſouth of France; they are ſmall, but ſuppoſed to reſemble in ſhape a flea, whence the Engliſh name of the plant. Theſe ſeeds have a nauſeous, mucilaginous taſte: boiled in water, they yield a conſiderable quantity of mucilage, which is ſometimes uſed in emollient glyſters. Alpinus relates, that among the Egyptians this mucilage is given in ardent fevers, and that it generally either looſens the belly or promotes ſweat.

PTARMICA [*Brun.*] *Radix.*

Achillea Ptarmica Lin.
Sneeze-wort; the root.

This grows wild on heaths and in moiſt ſhady places: the flowers, which are of a white colour, come forth in June and July. The roots have an acrid ſmell, and a hot biting taſte: when chewed they occaſion a plentiful diſcharge of ſaliva; and when powdered and ſnuffed up the noſe provoke ſneezing. Theſe are the only intentions to which they have been uſually applied.

PULEGIUM [*Lond. Ed.*] *Herba, flos.*

Mentha Pulegium Lin.

Penny-royal; the flower.

This plant grows ſpontaneouſly, in ſeveral parts of England, on moiſt commons, and in watery places; creeping on the ground, and ſtriking roots at the joints. Our markets have been for ſome time ſupplied with a garden ſort, which is larger than the other, and grows upright.

Pennyroyal is a warm, pungent herb, of the aromatic kind, ſimilar to mint, but more acrid and leſs agreeable: it has long been held in great eſteem as an aperient and deobſtruent, particularly in hyſteric complaints, and ſuppreſſions of the uterine purgations. For theſe purpoſes, the diſtilled water is generally uſed, or an infuſion of the leaves. Both water and rectified ſpirit extract the virtues of this herb by infuſion, and the greateſt part of them in diſtillation.

In the ſhops are kept a ſimple water, a ſpirit, and an eſſential oil obtained from this vegetable. But under any form it is now leſs frequently employed than formerly.

PULSATILLA NIGRICANS [*Ed.*] *Herba cum floribus.*

Anemone pratenſis Lin.

Meadow anemone.

This is the moſt acrid of the anemonies; and is recommended by Dr Stoerk, in the quantity of half an ounce of the diſtilled water, or five grains of the extract, twice or thrice a-day in venereal nodes, pains, ulcers with caries, chronic eruptions, amenorrhœa, various chronic affections of the eye, particularly blindneſs from obſcurities of the cornea. Its common effects are nauſea or vomiting, an augmented diſcharge of urine, diarrhœa, and increaſed pain at firſt in the affected part.

PYRETHRUM [*Lond. Ed.*] *Radix.*

Anthemis Pyrethrum Lin.

Pellitory of Spain; the root.

This plant, though a native of the warm climates, bears the ordinary winters of this, and often flowers ſucceſſively from Chriſtmas to May; the roots grow alſo larger with us than thoſe with which the ſhops are uſually ſupplied from abroad.

Pellitory root has no ſenſible ſmell; its taſte is very hot and acrid, but leſs ſo than that of arum; the juice expreſſed from it has ſcarcely any acrimony, nor is the root itſelf ſo pungent when freſh as after it has been dried. Water, aſſiſted by heat, extracts ſome ſhare of its taſte; rectified ſpirit, the whole; neither of them elevate any thing in diſtillation. The principal uſe of pyrethrum in the preſent practice is as a maſticatory, for promoting the ſalival flux; by this means it often relieves the toothach, ſome kinds of pains of the head, and lethargic complaints.

QUASSIA [*Lond. Ed.*] *Lignum, cortex, radix.*

Quaſſia amara Lin.

Quaſſy; the wood, bark, and root.

This root is about the thickneſs of a man's arm; its wood is whitiſh, becoming yellowiſh by expoſure

ſure to the air. It has a thin, grey, fiſſured, brittle bark, which is deemed in Surinam more powerful than the wood. Quaſſy has no ſenſible odour, but is one of the moſt intenſe, durable, pure bitters known. Its infuſion, decoction, and tincture are almoſt equally bitter and yellowiſh, but they are not blackened by a chalybeate.

It was much uſed in a fatal fever in Surinam, and is ſaid to be effectual in ſuppreſſing vomiting.

It is ſaid to be leſs antiſeptic than Peruvian bark; but, like colombo, another pure bitter, it preſerves bile longer from putrefaction. The beſt form is that of pills of the extract.

QUERCUS [*Lond. Ed.*] *Cortex.*

Quercus robur Lin.

Oak tree; the bark.

This bark is a ſtrong aſtringent; and hence ſtands recommended in hæmorrhagies, alvine fluxes, and other preternatural or immoderate ſecretions; and in theſe it is ſometimes attended with good effects.

RADIX INDICA LOPEZIANA [*Ed*]

Radix Indica a Joanne Lopez denominata, Gaubii Adverſaria.

Indian, or Lopez root.

The tree is unknown. Neither the woody or cortical part of the root has any remarkable ſenſible quality. A ſlight bitterneſs is perceptible, and it is recommended, like ſimarouba, in diarrhœas even of the colliquative kind, in half-drachm doſes four times a-day. Little of this root has been brought to Europe: but ſome of thoſe who have had an opportunity of employing it, ſpeak in very high terms of its effects.

RAPHANUS RUSTICANUS [*Lond. Ed.*] *Radix.*

Cochlearia Armoracia Lin.

Horſe-radiſh root.

This plant is ſometimes found wild about river ſides, and other moiſt places; for medicinal and culinary uſes, it is cultivated in gardens; it flowers in June, but rarely perfects its ſeeds in this country. Horſe-radiſh root has a quick pungent ſmell, and a penetrating acrid taſte; it nevertheleſs contains in certain veſſels a ſweet juice, which ſometimes exudes upon the ſurface. By drying, it loſes all its acrimony, becoming firſt ſweetiſh, and afterwards almoſt inſipid: if kept in a cool place, covered with ſand, it retains its qualities for a conſiderable time. The medical effects of this root are, to ſtimulate the ſolids, and promote the fluid ſecretions: it ſeems to extend its action through the whole habit, and affect the minuteſt glands. It has frequently done ſervice in ſome kinds of ſcurvies and other chronic diſorders. Sydenham recommends it likewiſe in dropſies, particularly thoſe which ſometimes follow intermittent fevers. Both water and rectified ſpirit extract the virtues of this root by infuſion, and elevate them in diſtillation: along with the aqueous fluid, an eſſential oil ariſes, poſſeſſing the whole taſte and pungency of the horſe-radiſh. From this root, the *ſpiritus raphani compoſitus* derives its name, and no inconſiderable ſhare of its activity.

REALGAR, a foſſil compoſed of arſenic and ſulphur. See ARSENICUM.

RESINA ALBA. See TEREBINTHINA.

RHABARBARUM [*Lond.*]
RHEUM [*Edin.*] *Radix.*
Rheum palmatum Lin.
Rhubarb; the root.

This plant grows ſpontaneouſly in China, and endures the colds of our climate. Two ſorts of rhubarb are met with in the ſhops. The firſt is imported from Turkey and Ruſſia, in roundiſh pieces freed from the bark, with a hole through the middle of each; they are externally of a yellow colour, and on cutting, appear variegated with lively reddiſh ſtreaks. The other, which is leſs eſteemed, comes principally from China in longiſh pieces, harder, heavier, and more compact than the foregoing. The firſt ſort, unleſs kept very dry, is apt to grow mouldy and worm eaten: the ſecond is leſs ſubject to theſe inconveniences. Some of the more induſtrious artiſts are ſaid to fill up the worm-holes with certain mixtures, and to colour the outſide of the damaged pieces with powder of the finer ſorts of rhubarb, and ſometimes with cheaper materials: this is often ſo nicely done, as effectually to impoſe on the buyer, unleſs he very carefully examines each piece. The marks of good rhubarb are, that it be firm and ſolid, but not flinty; that it be eaſily pulveriſable, and appear, when powdered, of a fine bright yellow colour: that upon being chewed, it impart to the ſpittle a ſaffron tinge, without proving ſlimy or mucilaginous in the mouth. Its taſte is ſubacrid, bitteriſh, and ſomewhat aſtringent: the ſmell ſlightly aromatic.

Rhubarb is a mild cathartic, which operates without violence or irritation, and may be given with ſafety even to pregnant women and to children. In ſome people, however, it occaſions ſevere griping. Beſides its purgative quality, it is celebrated as an aſtringent, by which it ſtrengthens the tone of the ſtomach and inteſtines, and proves uſeful in diarrhœa and diſorders proceeding from laxity. Rhubarb in ſubſtance operates more powerfully as a cathartic than any of the preparations of it. Watery tinctures purge more than the ſpirituous ones; while the latter contain in greater perfection the aromatic, aſtringent, and corroborating virtues of the rhubarb. The doſe, when intended as a purgative, is from a ſcruple to a drachm or more.

The Turkey rhubarb is, among us, univerſally preferred to the Eaſt India ſort, though this laſt is for ſome purpoſes at leaſt equal to the other: it is manifeſtly more aſtringent, but has ſomewhat leſs of an aromatic flavour. Tinctures drawn from both with rectified ſpirit, have nearly the ſame taſte: on diſtilling of the menſtruum, the extract left from the tincture of the Eaſt India rhubarb proved conſiderably the ſtrongeſt. They are both the produce of the ſame climate, and probably the roots of the ſame plant taken up at different ſeaſons, or cured in a different manner.

Rhubarb is now raiſed in Britain equal to any that is imported

The officinal preparations of this drug are, a watery and a vinous infuſion, a ſimple and a compound tincture. It is alſo an ingredient in different compoſitions, ſuch as the *Tinctura rhei cum aloe*, *pilulæ rhei compoſitæ*, and ſome others.

RHAMNUS CATHARTICUS. See SPINA CERVINA

RHAPONTICUM [*Roſs.*] *Radix.*

Rheum raponticum Lin.

Monks rhubarb, or Rhapontic; the root.

Rhapontic is a large roundiſh-leaved plant, growing wild on the mountain Rhodope in Thrace, from whence it was brought into Europe, about the year 1610, by Alpinus: it bears the hardeſt winters of this climate, and is not unfrequent in our botanic gardens. The root of this plant (which appears evidently to have been the rhubarb of the antients) is by ſome confounded with the modern rhubarb, though conſiderably different both in appearance and quality. The rhapontic is of a duſky colour on the ſurface; of a looſe ſpongy texture; conſiderably more aſtringent, but leſs purgative, than rhubarb, two or three drachms being required for a doſe.

RHEUM See RHABARBARUM.

RHODODENDRON [*Ed.*] *Herba.*

Rhododendron chryſanthemum Lin.

Rhododendron; the herb.

This plant is a native of Siberia, where a weak infuſion of it is uſed as tea. The Siberians uſe a decoction of it in rheumatiſm and gout. They put about two drachms of the dried ſhrub in an earthen pot, with about ten ounces of boiling water, keeping it near a boiling heat for a night, and this they take in the morning. It is ſaid to occaſion heat, thirſt, a degree of delirium, and a peculiar creeping like ſenſation in the parts affected. The uſe of liquids is not allowed during its operation, as this is apt to induce vomiting. In a few hours the pain and diſagreeable ſymptoms are relieved, and two or three doſes generally complete the cure. The powder has alſo been uſed in doſes of a few grains.

Hitherto it has been ſo little employed in Britain, that it has no place in the London pharmacopœia; But in ſome caſes in which it has been uſed at Edinburgh, it has been productive of good effects; and accordingly it is now introduced into the Edinburgh pharmacopœia, as well as into the pharmacopœia Roſſica, where it firſt had a place.

RIBES NIGRUM [*Lond.*] *Fructus.*

Ribes nigrum Lin.

Black currants; the berry.

RIBES RUBRUM [*Lond.*] *Fructus.*

Ribes rubrum Lin.

Red currants; the berry.

Theſe have a cool acidulous ſweet taſte, ſufficiently agreeable both to the palate and ſtomach.

The black currants are the baſis of an officinal ſyrup, and an inſpiſſated juice, which are frequently employed with advantage in recent catarrhs, attended with ſlight ſore throat.

RICINUS [*Lond. Ed.*] *Semen et ejus Oleum.*

Ricinus communis Lin.

Caſtor nut; the ſeed.

Theſe ſeeds are nuts about the ſize of beans, which in their brittle ſhells contain white kernels of a ſweet, oily, and ſomewhat nauſeous taſte. The oil, commonly called nut or caſtor oil, is got by expreſſion, retains ſomewhat of the mawkiſhneſs and acrimony of the nut, but is, in general, a ſafe and mild laxative in caſes where we wiſh to avoid irritation, as in thoſe of colic, calculus, gonorrhœa, &c. and it is alſo uſed as a purgative in worm caſes. Half an ounce or an ounce commonly anſwers for an adult, and a drachm or two for an infant.

An oil of an inferior kind, but poſſeſſing nearly the ſame qualities, is obtained by boiling.

Many people have ſo great an averſion to oil in its pure ſtate, that this purgative cannot be taken without great reluctance; and accordingly different modes of taking it have been propoſed. Some prefer taking it ſwimming on a glaſs of water or peppermint water, or in the form of emulſion, with mucilage, or with the addition of a little rum. Sometimes it is neceſſary to increaſe its activity by adding ſome other purgative. And with this view, nothing anſwers better than a ſmall quantity of tincture of jalap, or compound tincture of ſenna.

ROSA DAMASCÆNA [*Lond.*] *Petalum.*

ROSA PALLIDA [*Edin.*] *Petala.*

Roſa centifolia Lin.

The damaſk roſe: the petal.

This elegant flower is common in our gardens. Its ſmell is very pleaſant and almoſt univerſally admired; its taſte bitteriſh and ſubacid. In diſtillation with water, it yields a ſmall portion of butyraceous oil, whoſe flavour exactly reſembles that of the roſes. This oil, and the diſtilled water, are very uſeful and agreeable cordials. Hoffman ſtrongly recommends them as of ſingular efficacy for raiſing the ſtrength, cheering and recruiting the ſpirits, and allaying pain; which they perform without raiſing any heat in the conſtitution, and rather abating it when inordinate. Damaſk roſes, beſides their cordial aromatic virtue, which reſides in their volatile parts, have a mildly purgative one, which remains entire in the decoction left after the diſtillation: this with a proper quantity of ſugar, forms an agreeable laxative ſyrup, which has long kept its place in the ſhops.

ROSA RUBRA [*Lond. Ed.*] *Petalum.*

Roſa gallica Lin.

The red roſe; the petal.

This has very little of the fragrance of the foregoing pale ſort; and inſtead of its purgative quality, has a mild gratefully aſtringent one, eſpecially before the flower has opened: this is conſiderably improved by haſty exſiccation; but both the aſtringency and colour are impaired by ſlow drying. In the ſhops are prepared a conſerve, an infuſion, a honey, and a ſyrup of this flower.

ROSMARINUS [*Lond.*] *Cacumen, flos.* [*Edin.*] *ſummitates florentes.*

Roſmarinus officinalis Lin.

Roſemary; the top and flower.

This is a native of Spain, Italy, and the ſouthern parts of France, where it grows in great abundance upon dry gravelly grounds; in the like ſoils it thrives beſt with us, and likewiſe proves ſtronger in ſmell than when produced in moiſt rich ones: this obſervation obtains in almoſt all the aromatic plants.

Roſemary has a fragrant ſmell, and a warm pungent bitteriſh taſte, approaching to thoſe of lavender: the leaves and tender tops are ſtrongeſt: next to theſe the cup of the flower; the flowers themſelves are conſiderably the weakeſt, but moſt pleaſant. Aqueous liquors extract a great ſhare of the virtues of roſemary leaves by infuſion, and elevate them in diſtillation; along with the water ariſes a conſiderable quantity of eſſential oil, of an agreeable ſtrong penetrating ſmell. Pure ſpirit extracts in great perfection the whole aromatic flavour of the tops of roſemary, but elevates very little of it in diſtillation: hence the reſinous maſs left after abſtracting the ſpirit, proves an elegant aromatic, very rich in the peculiar qualities of the plant. The flowers of roſemary give over great part of their flavour in diſtillation with pure ſpirit; by watery liquors, their fragrance is much injured; and by heating, deſtroyed. The officinal preparations of roſemary are, an eſſential oil, and a ſpirit commonly known by the title of *Hungary water*; the tops are alſo an ingredient in the compound tincture of lavender, and ſome other formulæ.

RUBIA [*Lond. Ed.*] *Radix.*

Rubia tinctorum Lin.

Madder; the root.

Madder is raiſed in ſome of our gardens for medicinal purpoſes: it was formerly cultivated among us, in quantity, for the uſe of the dyers, who are at preſent ſupplied from Holland and Zealand. It has little or no ſmell, and a ſweetiſh taſte, mixed with a little bitterneſs. The virtues attributed of it are thoſe of a detergent and aperient; whence it has been recommended in obſtructions of the viſcera, particularly of the kidneys; in coagulations of the blood from falls or bruiſes; in the jaundice, and beginning dropſies.

It is obſervable, that this root, taken internally, tinges the urine of a deep red colour; and we have accounts of its producing a ſimilar effect upon the bones of animals who had it mixed with their food: all the bones, particularly the more ſolid ones, were changed, both externally and internally, to a deep red; but neither the fleſhy or cartilaginous parts ſuffered any alteration: ſome of theſe bones macerated in water for many weeks together, and afterwards ſteeped and boiled in ſpirit of wine, loſt none of their colour, nor communicated any tinge to the liquors. The colouring part of this root appears therefore to be poſſeſſed of great ſubtility of parts; whence its medical virtues ſeem to deſerve inquiry.

Some practitioners uſe it in half drachm doſes, ſeveral times a day as an emmenagogue.

RUBUS IDÆUS [*Lond.*] *Fructus.*

Rubus idæus Lin.

Raſpberry; the fruit.

This ſhrub is a native of the northern parts of Europe, and is common in our gardens. It flowers in May; and ripens its fruit in July. Raſpberries have a pleaſant ſweet taſte, accompanied with a peculiarly grateful flavour, on account of which they are chiefly valued. As to their virtues, they moderately quench thirſt, abate heat, ſtrengthen the viſcera, and promote the natural excretions. An agreeable ſyrup, prepared from the juice, is directed to be kept in the ſhops.

RUBUS NIGER [*Roſs.*] *Bacca.*

Rubus fruticoſus Lin.

The bramble; the fruit.

This ſhrub is frequently found wild in woods and hedges. The berries have a faint taſte, without any of the agreeable flavour of the foregoing; the leaves are ſomewhat aſtringent.

They enter no officinal compoſition, are rarely directed in practice, and hence have now no place in our pharmacopœias.

RUSCUS [*Brun.*] *Radix.*
Ruſcus aculeatus Lin.
Butcher's broom; the root.

This is a ſmall prickly plant, ſometimes found wild in woods. The root has a ſoft ſweetiſh taſte, which is followed by a bitteriſh one; it is ſometimes made an ingredient in apozems and diet-drinks, for opening ſlight obſtructions of the viſcera, and promoting the fluid ſecretions.

RUTA [*Lond. Ed.*] *Herba.*
Ruta graveolens Lin.
Rue; the herb.

This is a ſmall ſhrubby plant, met with in our gardens, where it flowers in June, and holds its green leaves all the winter; we frequently find in the markets a narrow leaved ſort, which is cultivated in preference to the other, on account of its leaves appearing variegated during the winter with white ſtreaks.

Rue has a ſtrong ungrateful ſmell, and a bitteriſh, penetrating taſte; the leaves, when in full vigour, are extremely acrid, inſomuch as to inflame and bliſter the ſkin, if much handled. With regard to their medicinal virtues, they are powerfully ſtimulating, and detergent; they quicken the circulation, open obſtructions of the excretory glands, and promote the fluid ſecretions.

The writers on the materia medica in general have entertained a very high opinion of the virtues of this plant. Boerhaave is full of its praiſes; particularly of the eſſential oil, and the diſtilled water cohobated, or rediſtilled ſeveral times, from freſh parcels of the herb; after ſomewhat extravagantly commending other waters prepared in this manner, he adds with regard to that of rue, that the greateſt commendations he can beſtow upon it fall ſhort of its merit: "What medicine (ſays he) can be more efficacious for promoting ſweat and perſpiration, for the cure of the hyſteric paſſion, and of epilepſies, and for expelling poiſon." Whatever ſervice rue may be of in the two laſt caſes, it undoubtedly has its uſe in others: the cohobated water, however, is not the moſt efficacious preparation of it. An extract made by rectified ſpirit contains, in a ſmall compaſs, the whole virtues of the rue; this menſtruum taking up by infuſion all the pungency and flavour of the plant, and elevating nothing in diſtillation. With water, its peculiar flavour and warmth, ariſe; the bitterneſs, and a conſiderable ſhare of the pungency, remaining behind.

The only officinal preparation of rue now retained in our pharmacopœias is the extract; but it is an ingredient in the compound powder of myrrh, and ſome other compoſitions.

SABINA [*Lond. Ed.*] *Folium.*
Juniperus Sabina Lin.
Savin; the leaf.

This is an evergreen ſhrub, clothed with ſmall, ſomewhat prickly, leaves: it does not produce fruit till very old, and hence has been generally reputed barren. The leaves have a bitter, acrid, biting taſte; and a ſtrong diſagreeable ſmell: diſtilled with water,

ter, they yield an eſſential oil, in larger quantity, as Hoffman obſerves, than any other known vegetable, the turpentine tree alone excepted,

Savin is a warm, irritating, aperient medicine, capable of promoting ſweat, urine, and all the glandular ſecretions. The diſtilled oil is one of the moſt powerful emmenagogues; and is found of ſervice in obſtructions of the uterus or other viſcera, proceeding from laxity and weakneſſes.

The powder is ſometimes uſed for conſuming venereal warts.

The eſſential oil and watery extract are kept in the ſhops; and, as well as the rue, the ſavin is likewiſe an ingredient in the compound powder of myrrh.

SACCHARUM NON PURIFICATUM [*Lond. Ed.*]

Brown ſugar.

SACCHARUM PURIFICATUM, ſive BIS COCTUM [*Lond. Ed.*]

Double refined ſugar.

SACCHARUM CANTUM ALBUM ET RUBRUM [*Roſs.*]

Sugar candy, white and brown.

Sugar is the eſſential ſalt of the *arundo ſaccharifera*, a beautiful large cane growing ſpontaneouſly in the Eaſt Indies, and ſome of the warmer parts of the Weſt, and cultivated there in great quantity. The expreſſed juice of the cane is clarified with the addition of lime-water, and boiled down to a due conſiſtence; when removed from the fire, the ſaccharine part concretes from the groſſer mucilaginous matter, called *treacle* or *melaſſes*. This, as yet impure ſugar, is farther purified in conical moulds, by ſpreading moiſt clay on the upper broad ſurface: the watery moiſture, ſlowly percolating through the maſs, carries with it a conſiderable part of the remains of the treacly matter. This clayed ſugar, imported from the Weſt Indies and America is by our refiners diſſolved in water, the ſolution clarified by boiling with whites of eggs and deſpumation, and after due evaporation poured into moulds: as ſoon as the ſugar has concreted, and the fluid part ſtrained off, the ſurface is covered with moiſt clay as before. The ſugar, thus once refined, by a repetition of the proceſs becomes the double-refined ſugar of the ſhops. The candy, or cryſtals, are prepared by boiling down ſolutions of ſugar to a certain pitch, and then removing them into a hot room, with ſticks ſet acroſs the veſſel for the ſugar to ſhoot on: the cryſtals prove of a white or brown colour, according as the ſugar was pure or impure.

The uſes of ſugar as a ſweet are ſufficiently well known. The impure ſorts contain an unctuous or oily matter; in conſequence of which they prove emollient and laxative. The cryſtals are moſt difficult of ſolution; and hence are propereſt where this ſoft lubricating ſweet is wanted to diſſolve ſlowly in the mouth.

SAGAPENUM [*Lond. Ed.*]

Gummi reſinæ.

Sagapenum; the gum-reſin.

This is a concrete juice brought from Alexandria, either in diſtinct tears, or run together in large maſſes. It is outwardly of a yellowiſh colour; internally, ſomewhat paler, and clear like horn; it grows ſoft on being handled, and ſticks to the fingers: its taſte is hot and biting: the ſmell diſagreeable, ſomewhat reſembling that of a leek,

Sagapenum is an uſeful aperient and deobſtruent; and is frequently preſcribed either alone or in conjuction with ammoniacum or galbanum, for opening obſtructions of the viſcera, and in hyſterical diſorders ariſing from a deficiency of the menſtrual purgations. It likewiſe promotes expectoration, and proves of conſiderable ſervice in ſome kinds of aſthmas and chronic catarrh, where the lungs are oppreſſed by viſcid phlegm. It is moſt commodiouſly given in the form of pills: from two or three grains to half a drachm may be given every night or oftener, and continued for ſome time. When ſagapenum is ſcarce, the druggiſts uſually ſupply its place with the larger and darker coloured maſſes of bdellium, broken into pieces; which are not eaſily diſtinguiſhed from it.

Sagapenum was an ingredient in the compound powder of myrrh, electuary of bay berries, mithridate and theriaca of the London pharmacopœia.

But from ſuch of theſe formulæ as are ſtill retained it is now rejected. It enters the gum pills of the London college; but it has no place in any formulæ of the Edinburgh pharmacopœia, a preference being given to ammoniacum and galbanum.

SAGO [*Gen.*]

Cycas circinalis Lin.

Sago.

This is the produce of an oriental tree of the palm tribe. The medullary part of the tree is beatten with water, and made into cakes, which are uſed by the Indians as bread. They likewiſe put the powder into a funnel, and waſh it with water over a hair ſieve which allows only the finer part to paſs through. The water on ſtanding, depoſites the feculæ, which being paſſed through perforated copper plates, is formed into grains called *Sago*. It furniſhes an agreeable jelly with water, milk, or broth, and is much uſed in phthiſical and convaleſcent caſes.

SAL ABSINTHII. See CINERES CLAVELLATI.

SAL ALKALINUS FIXUS VEGETABILIS. See CINERES CLAVELLATI.

SAL ALKALINUS FIXUS FOSSILIS. See BARILLA.

SAL CATHARTICUS AMARUS. See MAGNESIA VITRIOLATA.

SAL AMMONIACUS [*Lond. Ed.*]

Ammonia muriata.

Sal ammoniac.

This is an artificial ſaline concrete, prepared by ſublimation from the ſoot of animal-dung. It is brought from Egypt in conſiderable quantities, but we are now principally ſupplied in Britain from our own manufactures, ſeveral of which are eſtabliſhed in different parts of the country. Though the cheapeſt and moſt commodious proceſs for preparing it is not generally known, yet it is with good reaſon conjectured to be principally formed from ſea ſalt and ſoot; the former furniſhing the muriatic acid, the latter the volatile alkali. It is generally in large round cakes, convex on one ſide, and concave on the other; and ſometimes in conical loaves: on breaking they appear compoſed of needles, or ſtriæ, running tranſverſely. The beſt are almoſt tranſparent, colourleſs, and free from any viſible impurities:

purities: thoſe moſt commonly met with are of a grey yellowiſh colour on the outſide, and ſometimes black, according as the matter is more or leſs impure. The taſte of this ſalt is very ſharp and penetrating. It diſſolves in twice its weight, or a little leſs, of water; and upon evaporating a part of the menſtruum, concretes again into long ſhining ſpicula, or thin fibrous plates like feathers.

Sal ammoniac is compoſed of muriatic acid, united with volatile alkali. If mixed with fixed alkalies, or abſorbent earths, and expoſed to a moderate fire, a large quantity of volatile ſalt ſublimes, the acid remaining united with the intermedium; if treated in the ſame manner with quicklime, the penetrating volatile ſpirit ariſes in a cauſtic ſtate, but no ſolid ſalt is obtained. Expoſed alone to a conſiderable heat, it ſublimes entire, without any alteration of its former properties: ground with certain metallic ſubſtances, it elevates ſome part of them along with itſelf, and concretes with the remainder into a maſs, which readily flows into a liquor in a moiſt air; this appears in moſt reſpects ſimilar to a ſaturated ſolution of the metal made directly in muriatic acid.

Pure ſal ammoniac is a perfectly neutral ſalt, capable of promoting a diaphoreſis, or the urinary diſcharge, according to certain circumſtances in the conſtitution, or as the patient is managed during the operation. If a drachm of the ſalt be taken, diſſolved in water, and the patient kept warm, it generally proves ſudorific; by moderate exerciſe, or walking in the open air, its action is determined to the kidneys; a large doſe gently looſens the belly, and a ſtill larger proves emetic. This ſalt is recommended as an excellent febrifuge, and has been held a great ſecret in the cure of intermittents. It is undoubtedly a powerful aperient, and ſeems to paſs into the minuteſt veſſels; and as ſuch may in ſome caſes be of ſervice, either alone, or joined with bitters or the bark. This ſalt is ſometimes employed externally as an antiſeptic, and in lotions and fomentations, for œdematous and ſcirrhous tumours: and alſo in gargariſms for inflammations of the tonſils. Some uſe it in form of lotion in certain ulcers, and for removing common warts, which it does very effectually.

SAL MURIATICUS [*Lond.*]
Natron muriatum.
SAL MARINUS HISPANUS [*Ed.*] *Muria calore ſolis parata.*
Soda muriata.

Sea ſalt, or common ſalt.

This is a neutral ſalt, differing from moſt others in occaſioning thirſt when ſwallowed. It diſſolves in about three times its weight of water; the ſolution ſlowly evaporated, affords cubical cryſtals, which unite together into the form of hollowed truncated pyramids. Expoſed to the fire, it crackles and flies about, or decrepitates, as it is called: it afterward melts, and appears fluid as water. A ſmall quantity of this ſalt, added to the nitrous acid, enables it to diſſolve gold, but renders it unfit for diſſolving ſilver; if a ſolution of ſilver be poured into liquors containing even a minute portion of common ſalt, the whole immediately grows turbid and white; this phenomenon is owing to the precipitation of the ſilver by the muriatic acid.

This ſalt is either found in a

ſolid form in the bowels of the earth, or diſſolved in the waters of the ſea or ſaline ſprings.

1. *Sal gemmæ.* Rock ſalt. This is met with in ſeveral parts of the world, but in greateſt plenty in certain deep mines, of prodigious extent, near Cracow in Poland; ſome is likewiſe found in England, particularly in Cheſhire. It is for the moſt part very hard, ſometimes of an opaque ſnowy whiteneſs, ſometimes of a red, green, blue, and other colours. When pure, it is perfectly tranſparent and colourleſs; other ſorts are purified by ſolution in water and cryſtalliſation, in order to fit them for the common uſes of ſalt.

2. *Sal marinus, or Sal coctus.* The ſalt extracted from ſea waters and ſaline ſprings. Sea waters yield from one fiftieth to one-thirtieth their weight of pure ſalt: ſeveral ſprings afford much larger quantities; the celebrated ones of our own country at Nantwich, Northwich and Droitwich, yield (according to Dr Brownrig) above one-ſixth. There are two methods of obtaining the common ſalt from theſe natural ſolutions of it: The one a haſty evaporation of the aqueous fluid till the ſalt begins to concrete, and fall in grains to the bottom of the evaporating pan, from whence it is raked out, and ſet in proper veſſels for the brine or bittern to drain from it: the other, a more ſlow and gradual evaporation, continued no longer than till a ſaline cruſt forms on the top of the liquor; which, after removing the fire, ſoon begins to ſhoot, and run into cryſtals of a cubical figure. In the warmer climates, both theſe proceſſes are effected by the heat of the ſun. The ſalts obtained by them differ very conſiderably: that got by a haſty evaporation is very apt in a moiſt air, to run per deliquium; an inconvenience to which the cryſtallized ſalt is not ſubject: this ſalt is likewiſe found better for preſerving meat, and ſundry other purpoſes.

Common ſalt in ſmall quantities, is ſuppoſed to be warming, drying, and to promote appetite and digeſtion: in large doſes, as half an ounce, it proves cathartic. It is ſometimes uſed to check the operation of emetics, and make them run off by ſtool; and as a ſtimulus in glyſters.

SAL CORNU CERVI; [*Ed.*]

Ammonia ſicca, ex oſſibus vel cornibus animalium igne paratus, et ab oleo empyreumatico, quantum igne fieri poteſt, purificata.

Salt of hartſhorn; *i. e.* dry volatile alkaline ſalt, obtained by means of fire from the bones or horns of animals, and purified from its oil.

This article, to which the London college now give the name of *Ammonia præparata*, will afterwards come to be mentioned under the head of *Salts*. Here, it is ſufficient to obſerve, that it is a quick and powerful ſtimulant, and as ſuch is applied externally to the noſe in ſyncope; and with oil in cynanche, and ſome other inflammations, as a rubefacient. It is uſed internally in various low ſtates of the ſyſtem. See Spiritus Cornu Cervi.

SALIX [*Ed.*] *Ramulorum cortex.*

Salix fragilis Lin.

The willow; the bark of the branches.

This bark poſſeſſes a conſiderable

able degree of bitterneſs and aſtringency. It has been recommended by ſome as a ſubſtitute for the Peruvian bark, and of the indigenous barks which have been propoſed, it is perhaps one of the moſt effectual. But in point of efficacy it is in no degree to be compared with the Peruvian bark.

SALVIA [*Lond. Ed.*] *Folium Salviæ officinalis Lin.*

Sage; the leaf.

Of the ſalvia different varieties are in uſe, particularly thoſe diſtinguiſhed by the titles of *major* and *minor*. Theſe plants are common in our gardens, and flower in May and June: the green and red common ſages differ no otherwiſe than in the colour of their leaves; the ſeeds of one and the ſame plant produce both: the ſmall ſort is a diſtinct ſpecies; its leaves are narrower than the others, generally of a whitiſh colour, and never red. Both ſorts are moderately warm aromatics, accompanied with a ſlight degree of aſtringency and bitterneſs: the ſmall ſort is the ſtrongeſt, the large moſt agreeable.

The writers on the materia medica are full of the virtues of ſage, and derive its name from its ſuppoſed ſalutary qualities.

Salvia ſalvatrix, naturæ conciliatrix.

Cur moriatur homo, cui ſalvia creſcit in horto.

Its real effects are, to moderately warm and ſtrengthen the veſſels; and hence, in cold phlegmatic habits, it excites appetite, and proves ſerviceable in debilities of the nervous ſyſtem. The beſt preparation for theſe purpoſes is an infuſion of the dry leaves, drank as tea; or a tincture, or extract, made with rectified ſpirit, taken in proper doſes; theſe contain the whole virtues of the ſage; the diſtilled water and eſſential oil, only its warmth and aromatic quality, without any of its roughneſs or bitterneſs. Aqueous infuſions of the leaves, with the addition of a little lemon juice, prove an uſeful diluting drink in febrile diſorders, being ſufficiently agreeable to the palate.

SAMBUCUS [*Lond. Ed.*] *Cortex interior, flos, bacca.*

Sambucus nigra Lin.

Black berried elder; the inner bark, flower, and berry.

This is a large ſhrub, frequent in hedges; it flowers in May, and ripens its fruit in September. The inner green bark of its trunk is gently cathartic; an infuſion of it in wine, or the expreſſed juice, in the doſe of half an ounce or an ounce, is ſaid to purge moderately, and in ſmall doſes to prove an efficacious deobſtruent, capable of promoting all the fluid ſecretions.

The young buds, or rudiments of the leaves, are ſtrongly purgative, and act with ſo much violence as to be deſervedly accounted unſafe. The flowers are very different in quality: theſe have an agreeable aromatic flavour, which they give over in diſtillation with water, and impart by infuſion to vinous and ſpirituous liquors. The berries have a ſweetiſh, not unpleaſant taſte; nevertheleſs, eaten in ſubſtance, they offend the ſtomach: the expreſſed juice, inſpiſſated to the conſiſtence of a rob, proves an uſeful aperient medicine; it opens obſtructions of the viſcera, promotes the natural evacuations, and if continued for a length of time, does conſiderable ſervice in ſeveral chronical diſorders. It is obſervable, that this juice, which in its natural ſtate is of a purpliſh colour, tinges vinous ſpirits of a deep red.

This article was formerly kept in the ſhops, under ſeveral different formulæ. The *Succus ſpiſſatus* and *Unguentum ſambuci* ſtill retain a place in the London pharmacopœia; but the ſambucus does not now enter any fixed formula in that of Edinburgh.

A rob was prepared from the berries; an oil of elder by boiling the flowers in olive oil; and an ointment by boiling them in a mixture of oil and ſuet.

SANGUIS DRACONIS

[*Lond. Ed.*] *Gummi reſina.*

Dragon's blood.

What is called dragon's blood is a gummi reſinous ſubſtance brought from the Eaſt Indies, either in oval drops, wrapped up in flag leaves; or in large maſſes, compoſed of ſmaller tears. It is ſaid to be obtained from the palmi-juncus draco, the calamus rotang, the dracena draco, the pterocarpus draco, and ſeveral other vegetables.

The writers on the materia medica in general, give the preference to the former, though the others are frequently of equal goodneſs; the fine dragon's blood of either ſort breaks ſmooth, free from any viſible impurities, of a dark red colour, which changes on being powdered into an elegant bright crimſon. Several artificial compoſitions, coloured with the true dragon's blood, or Brazil wood, are ſometimes ſold inſtead of this commodity: ſome of theſe diſſolve like gums, in water; others crackle in the fire, without being inflammable; while the genuine ſanguis draconis readily melts and catches flame, and is not acted on by watery liquors. It totally diſſolves in pure ſpirit, and tinges a large quantity of the menſtruum of a deep red colour: it is likewiſe ſoluble in expreſſed oils, and gives them a red hue, leſs beautiful than that communicated by anchuſa. This drug, in ſubſtance, has no ſenſible ſmell or taſte; when diſſolved, it diſcovers ſome degree of warmth and pungency. It is uſually, but without foundation, eſteemed a gentle aſtringent, and ſometimes directed as ſuch in extemporaneous preſcription, againſt ſeminal gleets, the fluor albus, and other fluxes. In theſe caſes, it is ſuppoſed to produce the general effects of reſinous bodies, ſlightly incraſſating the fluids, and ſomewhat ſtrengthening the ſolids. But in the preſent practice it is very little uſed, either externally or internally. It is ſtill however an ingredient in the *Emplaſtrum thuris* of the London pharmacopœia. It formerly entered the *Pulvis ſtypticus*, or the *Pulvis aluminis compoſitus* as it is now called, of the Edinburgh college; but from this it has with propriety been rejected, giving place to a much more active article, the gum-kino: and perhaps the ſanguis draconis might even with propriety be omitted in our pharmacopœias, at leaſt till its qualities be really aſcertained.

SANTALUM CITRINUM

[*Ed.*]

Santalum album Lin.

Yellow ſaunders.

This article, which is the interior part of the wood, is of a pale yellowiſh colour, of a pleaſant ſmell, and a bitteriſh aromatic taſte, accompanied with an agreeable kind of pungency. This elegant wood might undoubtedly be applied to valuable medical purpoſes, though at preſent it is very rarely uſed. Diſtilled with water it yields a fragrant eſſential oil, which thickens in the cold into the conſiſtence of a balſam. Digeſted in pure ſpirit, it imparts a rich yellow tincture; which being committed to diſtillation, the ſpirit ariſes without any conſiderable flavour of the ſaunders. Hoffman conſiders this extract as a medicine of ſimilar virtues to ambergris; and recommends it as an excellent reſtorative in great debilities.

SANTALUM RUBRUM [*Lond. Ed.*]

Pterocarpus ſantolinus Lin.

Red ſaunders.

This is a wood brought from the Eaſt Indies in large billets, of a compact texture, of a dull red, almoſt blackiſh colour on the outſide, and a deep brighter red within. It has no maniteſt ſmell, and little or no taſte. It has been commended as a mild aſtringent, and as a corroborant; but theſe are qualities that belong only to the yellow ſort.

The principal uſe of red ſaunders is as a colouring drug; with which intention it is employed in ſome formulæ, particularly in the *Tinctura lavendulæ compoſita.* It communicates a deep red to rectified ſpirit, but gives no tinge to aqueous liquors: a ſmall quantity of reſin, extracted by means of ſpirit, tinges a large one of freſh ſpirit, of an elegant blood red. There is ſcarcely any oil, that of lavender excepted, to which it communicates its colour. Geoffroy and others take notice, that the Brazil woods are ſometimes ſubſtituted for red ſaunders; and the college of Bruſſels are in doubt whether all that is ſold among them for ſaunders be not really Brazil wood. According to the account which they have given, their ſaunders is certainly the Brazil wood; the diſtinguiſhing character of which is, to impart its colour to water.

SANTONICUM [*Lond. Ed.*] *Semen.*

Artemiſia Santonicum Lin.

Worm ſeed.

This is a ſmall, light, chaffy ſeed, compoſed as it were of a number of thin membranaceous coats of a yellowiſh colour, an unpleaſant ſmell, and a very bitter taſte. Theſe ſeeds are celebrated for anthelmintic virtues, which they have in common with other bitters; and are ſometimes taken with this intention, either mixed wirh molaſſes, or candied with ſugar.

SAPO [*Lond.*] *Ex oleo olivæ et natro confectus.*

SAPO ALBUS HISPANUS [*Ed.*]

White Spaniſh ſope.

SAPO MOLLIS.

Common ſoft ſope.

SAPO NIGER.

Black ſoft ſope.

Sope is compoſed of expreſſed vegetable oils or animal fats, united with cauſtic alkaline lixivia. The firſt ſort, or white hard ſope, is made with the finer kinds of olive oil; the common ſoft ſort with coarſer oils, fat tallow, or a mixture of all theſe; and the black with train-oil.

The purer hard ſope is the only ſort intended for internal uſe.

Boerhaave was a great admirer of ſope, and in his private practice ſeldom preſcribed any reſinous pills without it, unleſs where an alkaleſcent or putrid ſtate of the juices forbad its uſe. It has been ſuppoſed a powerful menſtruum for the human calculus; and a ſolution of it in lime-water was formerly eſteemed one of the ſtrongeſt ſolvents that could be taken with ſafety into the ſtomach.

The ſoft ſopes are more penetrating and acrimonious than the hard. Their principal medical uſe is for ſome external purpoſes, although when diſſolved in ale, they have been directed to be taken in conſiderable quantity for the cure of jaundice.

Hard ſope gives name to an officinal plaſter, liniment, and balſam.

SAPONARIA [*Suec.*] *Folia, Radix.*

Saponaria officinalis Lin.

Sopewort, or bruiſewort; the herb and root.

This grows wild, though not very common, in low wet places, and by the ſides of running waters; a double flowered ſort is frequent in our gardens. The leaves have a bitter, diſagreeable taſte: agitated with water they raiſe a ſaponaceous froth, which is ſaid to have nearly the ſame effects with ſolutions of ſope itſelf, in taking out ſpots from cloths, and the like. The roots taſte ſweetiſh and ſomewhat pungent, and have a ſlight ſmell like thoſe of liquorice: digeſted in rectified ſpirit, they yield a ſtrong tincture, which loſes nothing of its taſte or flavour in being inſpiſſated to the conſiſtence of an extract. This elegant root has not come much into practice among us, though it promiſes from its ſenſible qualities to be a medicine of conſiderable utility. It is much eſteemed by the German phyſicians as an aperient, corroborant, and ſudorific; and preferred by the college of Wirtemberg, by Stahl, Neumann, and others, to ſarſaparilla.

SARCOCOLLA [*Lond.*] *Gummi-reſina.*

This is a concrete juice, brought from Perſia and Arabia in ſmall white, yellow grains, with a few of a reddiſh, and ſometimes of a deep red colour, mixed with them; the whiteſt tears are preferred, as being the freſheſt. It is ſuppoſed to be the product of the Penæa ſarcocolla of Linné. Its taſte is bitter, accompanied with a dull kind of ſweetneſs. It diſſolves in watery liquors, and appears to be chiefly of the gummy kind, with a ſmall admixture of reſinous matter. It is principally celebrated for conglutinating wounds and ulcers (whence its name *σαρκοκολλα*, *fleſh glue*), a quality to which neither this nor any other drug has a juſt title. It is an ingredient in the *Pulvis ceruſſæ compoſitus.*

SARSAPARILLA [*Lond. Ed.*] *Radix.*

Smilax Sarſaparilla Lin.

Sarſaparilla; the root.

This root is brought from the Spaniſh Weſt Indies. It conſiſts of a great number of long ſtrings hanging from one head: the long roots, the only part uſed, are about the thickneſs of a gooſe quill, or thicker, flexible, compoſed of fibres running their whole length; ſo that they may be ſplit into pieces from one end to the other. They have a glutinous, bitteriſh, not ungrateful taſte, and no ſmell.

It was firſt brought into Europe by the Spaniards, about the year 1563, with the character of a ſpecific for the cure of the lues venerea; and likewiſe of ſeveral obſtinate chronic diſorders. Whatever good effects it might have produced in the warmer climates, it proved unſucceſsful in this; inſomuch that many have denied it to have any virtue at all. Though very unequal to the character which it bore at firſt, it appears to be in ſome caſes of conſiderable uſe as a ſudorific, where more acrid medicines are improper. The beſt preparations are, a decoction, and extract made with water; a decoction of half an ounce of the root, or a drachm of the extract, may be taken for a doſe.

SASSAFRAS [*Lond.*]

Lignum, radix, ejuſque cortex, [*Ed.*] *Lignum radicis ejuſque cortex.*

Laurus Saſſafras Lin.

Saſſafras; the wood, root, and its bark.

Saſſafras is brought to us in long ſtraight pieces, very light, and of a ſpongy texture, covered with a rough fungous bark, outwardly of an aſh colour, inwardly of the colour of ruſty iron. It has a fragrant ſmell, and a ſweetiſh aromatic ſubacrid taſte: the bark taſtes much ſtronger than any other part; and the ſmall twigs ſtronger than than the large pieces. As to the virtues of this root, it is a warm aperient and corroborant; and frequently employed with good ſucceſs for purifying the blood and juices. For theſe purpoſes, infuſions made from the raſped root or bark, may be drank as tea. In ſome conſtitutions theſe liquors, by their fragrance, are apt, on firſt taking them, to affect the head; in ſuch caſes they may be advantageouſly freed from their flavour by boiling. A decoction of ſaſſafras boiled down to the conſiſtence of an extract, is bitteriſh and ſubaſtringent. Hoffman aſſures us, that he has frequently given this extract to the quantity of a ſcruple at a time, with remarkable ſucceſs, for ſtrengthening the tone of the viſcera in cachexies, and alſo in the decline of intermittent fevers, and in hypochondriacal ſpaſms. Saſſafras yields, in diſtillation, an extremely fragrant oil, of a penetrating pungent taſte, ſo ponderous, notwithſtanding the lightneſs of the drug itſelf, as to ſink in water. Rectified ſpirit extracts the whole taſte and ſmell of ſaſſafras, and elevates nothing in evaporation: hence the ſpirituous extract proves the moſt elegant and efficacious preparation, as containing the virtue of the root entire.

The only officinal preparation of ſaſſafras is the eſſential oil. The ſaſſafras itſelf is an ingredient in the *Decoctum Sarſaparillæ compoſitum;* and the oil in the *Tinctura guaiaci ammoniata.*

SATUREIA [*Suec.*] *Herba.*

Satureia hortenſis Lin.

Summer ſavory; the herb.

This herb is raiſed annually in gardens for culinary purpoſes. It is a very pungent warm aromatic; and affords in diſtillation with water a ſubtile eſſential oil, of a penetrating ſmell, and very hot acrid taſte. It yields little of its virtues by infuſion to aqueous liquors: rectified ſpirit extracts the whole of its taſte and ſmell, but elevates nothing in diſtillation.

SATYRION [*Ed.*] *Radix.*

Orchis maſcula Lin.

Orchis; the root.

This plant is frequent in ſhady places and moiſt meadows: each plant has two oval roots, of a whitiſh colour, a viſcid ſweetiſh taſte, and a faint unpleaſant ſmell. They abound with a glutinous ſlimy juice. With regard to their virtues, like other mucilaginous vegetables, they defend the ſolids from the acrimony of ſharp humours; they have alſo been celebrated, though on no very good foundation, for analeptic and aphrodiſiac virtues; and frequently uſed with theſe intentions. Salep, a celebrated reſtorative among the Turks, is prepared from the roots of certain plants of the orchis kind. This drug, as ſometimes brought to us, is in oval pieces, of a yellowiſh white colour, ſomewhat clear and pellucid, very hard, and almoſt horny, of little or no ſmell, and taſting like gum tragacanth. Satyrion root, boiled in water, freed from the ſkin, and afterwards ſuſpended in the air to dry, has exactly the ſame appearance: the roots thus prepared, diſſolve in boiling water into a mucilage. Geoffroy, who firſt communicated this preparation of orchis, recommends it in conſumptions, in bilious dyſenteries, and diſorders of the breaſt, proceeding from an acrimony of the juices.

SCAMMONIUM [*Lond. Ed.*]

Gummi reſina.

Convolvulus Scammonia Lin.

Scammony; the gum reſin.

Scammony is a concrete juice, extracted from the roots of a large climbing plant growing in Aſiatic Turkey. The beſt comes from Aleppo, in light ſpongy maſſes, eaſily friable, of a ſhining aſh colour verging to black; when powdered, of a light grey or whitiſh colour. An inferior ſort is brought from Smyrna in more compact ponderous pieces, of a darker colour, and full of ſand and other impurities. This juice is chiefly of the reſinous kind: rectified ſpirit diſſolves five ounces out of ſix: the remainder is a mucilaginous ſubſtance mixed with droſs: proof ſpirit totally diſſolves it, the impurities only being left. It has a faint unpleaſant ſmell, and a bitteriſh, ſomewhat acrimonious, taſte.

Scammony is an efficacious and ſtrong purgative. Some phyſicians have condemned it as unſafe, and laid ſundry ill qualities to its charge; the principal of which is, that its operation is uncertain, a full doſe proving ſometimes ineffectual, while at others a much ſmaller one occaſions dangerous hypercatharſis. This difference, however, is owing entirely to the different circumſtances of the patient, and not to any ill quality of the medicine; where the inteſtines are lined with an exceſſive load of mucus, the ſcammony paſſes through them without exerting itſelf; where the natural mucus is deficient a ſmall doſe of this, or any other reſinous cathartic, irritates and inflames. Many have endeavoured to abate its force and correct its imaginary virulence, by expoſing it to the fume of ſulphur, diſſolving it in acid juices, and the like: but this could do no more than deſtroy, as it were, a part of the medicine, without making any alteration in the reſt. Scammony in ſubſtance, judiciouſly managed, needs no corrector: if triturated with ſugar, with almonds, or with gum, as we have formerly recommended for other reſinous purgatives, it becomes ſufficiently ſafe and mild in its operation. It may likewiſe be conveniently diſſolved, by trituration, in a ſtrong decoction of liquorice, and then poured off from the feces: the college of Wirtemberg aſſure us, that, by this treatment, it becomes mildly purgative, and is unattended with gripes, or other inconveniences; and that it likewiſe proves inoffenſive to the palate. The common doſe of ſcammony is from three to twelve grains

Scammony gives name to three different compound powders, viz. the *Pulvis ſcammonii compoſitus*, *Pulvis ſcammonii compoſitus cum aloe*, and *Pulvis ſcammonii cum calomelane*; and is an ingredient in the compound powder of ſenna, the compound extract of colocynth, and the pills of colocynth and aloes.

SCILLA [*Lond. Ed.*] *Radix. Scilla maritima Lin.*

Squil, or ſea onion; the root.

This is a ſort of onion, growing ſpontaneouſly on dry ſandy ſhores in Spain and the Levant, from whence the root is annually brought into Europe. It ſhould be choſen plump, ſound, freſh, and full of a clammy juice: ſome phyſicians have preferred the red ſort, others the white, though neither deſerves the preference to the other; the only difference perceivable between them is that of the colour; and hence both may be uſed promiſcuouſly. This root is very nauſeous, intenſely bitter and acrimonious: much handled it ulcerates the ſkin. With regard to its medical virtues, it powerfully ſtimulates and conſequently promotes expectoration, urine, and if the patient be kept warm, ſweat: if the doſe be conſiderable, it proves emetic, and ſometimes purgative. The principal uſe of this medicine is where the primæ viæ abound with mucous matter, and the lungs are oppreſſed by phlegm. Dr Wagner, in his clinical obſervations, recommends it given along with nitre, in hydropical ſwellings, and in nephritis; and mentions ſeveral cures which he performed, by giving from four to ten grains of the powder for a doſe, mixed with a double quantity of nitre; he ſays that thus managed, it almoſt always operates as a diuretic, though ſometimes it vomits or purges. In dropſy, dried ſquills are often combined with mercury. The moſt commodious form for the taking of ſquills, unleſs when deſigned as an emetic, is that of a bolus, or pill: liquid forms are to moſt people too offenſive, though theſe may be rendered leſs diſagreeable, both to the palate and ſtomach, by the addition of aromatic diſtilled waters. This root yields the whole of its virtues, both to aqueous and vinous menſtrua, and to vegetable acids. The officinal preparations of it in our pharmacopœias are, a conſerve, dried ſquills, a ſyrup, vinegar, an oxymel, and pills.

SCOLOPENDRIUM [*Ed.*] *Lingua Cervina.*

Alplenium Scolopendrium Lin.

Harts tongue; the leaves.

This plant conſiſts of a number of long narrow leaves, without any ſtalk: it grows upon rocks and old walls, and remains green all the year. The leaves have a roughiſh, ſomewhat mucilaginous taſte, like that of the maidenhair, but more diſagreeable. They are recommended in obſtructions, and for ſtrengthening the tone of the viſcera; and have ſometimes been uſed for theſe intentions, either alone, or in conjunction with maidenhair, or the other plants called *capillary*.

SCORDIUM [*Lond. Ed.*] *Herba.*

Teucrium Scordium Lin.

Water-germander; the herb.

This is a ſmall, ſomewhat hairy plant, growing wild in ſome parts of England, though not very common; the ſhops are generally ſupplied from gardens. It has a bitter taſte, and a ſtrong diſagreeable ſmell. Scordium is of no great eſteem in the preſent practice, notwithſtanding the deobſtruent, diuretic, and ſudorific virtues, for which it was once celebrated. It formerly entered the mithridate, theriaca, and cataplaſm of cummin ſeed, and gave name to two compound powders and an electuary; but it could by no means be conſidered as an article of great activity; and from ſuch of theſe formulæ as are ſtill retained, the ſcordium is rejected.

SEBESTENA [*Brun.*] *Fructus.*

Cordia Myxa Lin.

Sebeſtens.

Theſe are a ſort of plumb, the produce of a tree growing in the Eaſt Indies. The fruit is brought from thence in a dry ſtate; it is of a dark or blackiſh brown colour, with whitiſh or aſh coloured cups: the fleſh ſticks cloſe to the ſtone, which contains ſometimes one and ſometimes two kernels. This fruit has a ſweet, very glutinous taſte: and hence has been employed in ſome kinds of hoarſeneſs, and in coughs from thin ſharp defluxions: at preſent it is not often met with in the ſhops.

SEDUM ACRE [*Suec.*] *Herba recens.*

Sedum acre Lin.

Wall-or Stone-crope, or pepper; the recent plant.

This ſpecies of the ſedum is a ſmall, perennial, ſucculent, plant, growing in great abundance on the tops of walls and roofs of houſes. It has a faint ſmell, and at firſt an herbaceous taſte; but it afterwards ſhews conſiderable acrimony, exciting a ſenſe of biting heat in the mouth and fauces. In its recent ſtate it ſhews very active powers, proving emetic, purgative, and diuretic. The expreſſed juice taken to the quantity of a table ſpoonful, has been ſaid to prove a very draſtic medicine: but the plant in its dried ſtate ſhews little or no activity. In this country it is ſcarcely employed, and has no place in our pharmacopœias. Its activity, however, points it out as a ſubject deſerving attention.

SENEKA [*Lond. Ed*] *Radix.*

Polygala Senega Lin.

Seneka, or rattle-ſnake root.

Seneka grows ſpontaneouſly in Virginia, and bears the winters of our climate. This root is uſually about the thickneſs of the little finger, variouſly bent and contorted, and appears as if compoſed of joints, whence it is ſuppoſed to reſemble the tail of the animal whoſe name it bears; a kind of membranous margin runs on each ſide, the whole length of the root. Its taſte is at firſt acid, afterwards very hot and pungent.

The Senegaro Indians are ſaid to prevent the fatal effects of the bite of the rattle-ſnake, by giving it internally, and by applying it externally to the wound. It has been ſtrongly recommended in pleuriſies, peripneumonies, and other inflammatory diſorders. Its more immediate effects are thoſe of a diuretic, diaphoretic, and cathartic; ſometimes it proves emetic: the two laſt operations may be occaſionally prevented, by giving the root in ſmall doſes, along with ſome aromatic ſimple water, as that of cinnamon. The uſual doſe of the powder is thirty grains or more.

Some have likewiſe employed this root in hydropic caſes, and not without ſucceſs. There are examples of its occaſioning a plentiful evacuation by ſtool, urine, and perſpiration; and by this means removing the diſeaſe, after the common diuretics and hydragogues had failed: where this medicine operates as a cathartic, it generally proves ſucceſsful.

SENNA [*Lond. Ed.*] *Folium. Caſſia ſenna Lin.*

Senna; the leaf.

This is a ſhrubby plant cultivated in Perſia, Syria, and Arabia; from whence the leaves are brought, dried and picked from the ſtalks, to Alexandria in Egypt; and thence imported into Europe. They are of an oblong figure, ſharp pointed at the ends, about a quarter of an inch broad, and not a full inch long, of a lively yellowiſh green colour, a faint not very diſagreeable ſmell, and a ſubacrid, bitteriſh, nauſeous taſte. Some worſe ſorts are brought from Tripoli and other places: theſe may eaſily be diſtinguiſhed by their being either narrower, longer, and ſharper pointed, or larger, broader, and round pointed, with ſmall prominent veins; or large and obtuſe, of a freſh green colour, without any yellow caſt.

Senna is a very uſeful cathartic, operating mildly, and yet effectually: and, if judiciouſly doſed and managed, rarely occaſioning the ill conſequences which too frequently follow the exhibition of the ſtronger purges. The only inconveniences complained of in this drug are, its being apt to gripe, and its nauſeous flavour. The griping quality depends on a reſinous ſubſtance, which, like the other bodies of this claſs, is naturally diſpoſed to adhere to the coats of the inteſtines. The more this reſin is divided by ſuch matters as take off its tenacity, the leſs adheſive, and conſequently the leſs irritating and griping it will prove; and the leſs it is divided, the more griping: hence ſenna given by itſelf, or infuſions made in a very ſmall quantity of fluid, gripe ſeverely, and purge leſs than when diluted by a large portion of ſuitable menſtruum, or divided by mixing the infuſion with oily emulſions or with gum. The colleges, both of London and Edinburgh, have given ſeveral formulæ for the exhibition of this article; ſuch as thoſe of infuſion, powder, tincture, and electuary. The doſe of ſenna in ſubſtance, is from a ſcruple to a drachm; in infuſion, from one to three or four drachms.

It has been cuſtomary to reject the pedicles of the leaves of ſenna, as of little or no uſe: Geoffroy however obſerves, that they are not much inferior in efficacy to the leaves themſelves. The pods or ſeed veſſels met with among the ſenna brought to us, are by the college of Bruſſels preferred to the leaves: they are leſs apt to gripe, but are proportionally leſs purgative.

SERPENTARIA VIRGINIANA [*Lond. Ed.*] *Radix.*

Ariſtolochia Serpentaria Lin.

Virginian ſnake root; the root.

This is a ſmall, light, buſhy root conſiſting of a number of ſtrings or fibres, matted together, iſſuing from one common head; of a browniſh colour on the outſide, and paler or yellowiſh within. It has an aromatic ſmell, like that of valerian, but more agreeable: and a warm, bitteriſh, pungent taſte. This root is a warm diaphoretic and diuretic: it has been much celebrated as an alexipharmac, and eſteemed one of the principal remedies in malignant fevers and epidemic diſeaſes, and alſo in cutaneous affections. It is given in ſubſtance in doſes of from ten to thirty grains, and in infuſion to a drachm or two. Both watery and ſpirituous menſtrua extract its virtue by infuſion, and elevate its flavour in diſtillation: along with the water a ſmall portion of eſſential oil ariſes. A ſpirituous tincture is directed as an officinal preparation.

SERPYLLUM [*Ed.*] *Summitates florentes.*

Thymus Serpyllum Lin.

Mother of thyme; the flowering tops.

This is a ſmall creeping plant, common on heaths and dry paſture grounds. Its taſte, ſmell, and medical virtues are ſimilar to thoſe of thyme, but weaker.

SEVUM. See CVIS.

SIMAROUBA [*Lond. Ed.*] *Cortex.*

Quaſſia Simarouba Lin.

Simarouba; the bark.

This bark, with pieces of the wood adhering to it, is brought from Guiana in South America, in long tough pieces of a pale yellowiſh colour, and a pretty ſtrong bitter taſte. A decoction of half a drachm is given for a doſe, and repeated at intervals of three or four hours, in dyſenteric fluxes.

It has alſo been uſed with advantage in ſome other inſtances of increaſed diſcharges, particularly in leucorrhœa. From its ſenſible qualities it may be concluded to be a gentle aſtringent.

SINAPI [*Lond. Ed.*] *Semen.*

Sinapis nigra Lin. [*Lond.*]

Sinapis alba Lin. [*Ed.*]

Muſtard ſeed; black and white.

Theſe ſeeds obtained from different ſpecies of the muſtard, differ very little from each other, excepting that the black is rather more pungent than the white.

This plant is ſometimes found wild, but for culinary and medicinal uſes it is cultivated in gardens or fields. Muſtard, by its acrimony and pungency, is ſtimulating: and ſtands deſervedly recommended for exciting appetite, promoting digeſtion, increaſing the fluid ſecretions; and alſo in paralytic and rheumatic affections, and for the other purpoſes of the acrid plants called *antiſcorbutic.* Some recommend it in the diſeaſe called *milrack* or *bellon,* to which ſmelters are ſubject. It imparts its taſte and ſmell in perfection to aqueous liquors, while rectified ſpirit extracts extremely little of either: the whole of the pungency ariſes with water in diſtillation. Committed to the preſs, it yields a conſiderable quantity of a ſoft inſipid oil, perfectly void of acrimony: the cake left after the expreſſion is more pungent than the muſtard was at firſt. The oil is directed as officinal by the London college These ſeeds are ſometimes employed externally in ſinapiſms as a ſtimulant.

SIUM [*Lond.*] *Herba.*

Sium nodiflorum Lin.

Creeping ſkerrit, or water parſnip; the herb.

The London parmacopœia is the only modern one in which this article has at preſent a place. It is an indigenous vegetable in Britain, growing abundantly in rivers and ditches. It was formerly alleged to be not only a diuretic, but alſo an emmenagogue and lithontriptic. With theſe intentions, however, it is not now employed. Dr Withering mentions, that a young lady of ſix years old was cured of an obſtinate cutaneous diſeaſe by taking three large ſpoonfuls of the juice twice a day; and he adds, that he has repeatedly given to adults three or four ounces every morning, in ſimilar complaints. In ſuch doſes it neither affects the head, ſtomach, nor bowels. And children take it readily when mixed with milk.

SODA. See Barilla.

SOLANUM LETHALE. See Belladonna.

SPERMA CETI [*Lond.*] *Sevum Ceti cryſtalliſatum.*

SEVUM CETI [*Edin.*] *Sperma Ceti.*

Phyſeter macrocephalus Lin [*Ed.*]

Spermaceti.

Spermaceti is a peculiar animal fat obtained from the head of a ſpecies of whale. It is an unctuous flaky ſubſtance, of a ſnowy whiteneſs, a ſoft butyraceous taſte, and without any remarkable ſmell. The virtues of this concrete are thoſe of a mild emollient: it is of conſiderable uſe in pains and eroſions of the inteſtines, in coughs proceeding from thin ſharp defluxions, and in general in all caſes where the ſolids require to be relaxed, or acrimonious humours to be obtunded. For external purpoſes, it readily diſſolves in oils; and for internal ones, it may be united with aqueous liquors into the form of an emulſion, by the mediation of almonds, gums, or the yolks of eggs. Sugar does not render it perfectly miſcible with water; and alkalies, which change other oils and fats into ſope, have little effect on ſpermaceti. This drug ought to be kept very cloſely from the air; otherwiſe its white colour ſoon changes into a yellow, and its mild unctuous taſte into a rancid and offenſive one. After it has ſuffered this diſagreeable alteration, both the colour and quality may be recovered again by ſteeping it in alkaline liquors, or in a ſufficient quantity of ſpirit of wine.

SPIGELLA [*Lond. Ed.*] *Radix*

Spigelia marilandica Lin.

Indian pink; the root.

This plant grows wild in the ſouthern parts of North America.

The roots are celebrated as an anthelmintic, particularly for the expulſion of lumbrici. Some order it in doſes of ten or fifteen grains; and allege that it occaſions nervous affections if given in larger doſes; while others order it in drachm doſes, alleging that the bad effects mentioned more readily happen from ſmall doſes, as the larger ones often purge or puke; ſome prefer the form of infuſion. An emetic is generally premiſed; and its purgative effect aſſiſted by ſome ſuitable additions.

SPINA CERVINA [*Lond.*] *Bacca.*

RHAMNUS CATHARTICUS [*Edin.*] *Baccarum ſuccus.*

Rhamnus catharticus Lin.

Buck thorn; the berries.

This tree, or buſh, is common in hedges; it flowers in June, and ripens its fruit in September or the beginning of October. In our markets, the fruit of ſome other trees, as the black berry bearing alder, and the dog-berry tree, have of late often been mixed with or ſubſtituted for thoſe of buck-thorn. This abuſe may be diſcovered by opening the berries, thoſe of buckthorn have generally four ſeeds, the berries of the alder two, and thoſe of the dog berry only one. Buckthorn berries, bruiſed on white paper, give it a green tincture, which the others do not. Thoſe who ſell the juice to the apothecaries, are ſaid to mix with it a large proportion of water.

Buckthorn berries have a faint diſagreeable ſmell, and a nauſeous bitter taſte. They have long been in conſiderable eſteem as cathartics: and celebrated in dropſies, rheumatiſms, and even in the gout: though in theſe caſes they have no advantage above other purgatives, and are more offenſive, and operate more ſeverely, than many which the ſhops are furniſhed with: they generally occaſion gripes, ſickneſs, dry the mouth and throat, and leave a thirſt of long duration. The doſe is about twenty of the freſh berries in ſubſtance, and twice or thrice this number in decoction; an ounce of the expreſſed juice, or a drachm of the dried berries. A ſyrup prepared from the juice is kept in the ſhops: in this preparation the nauſeous flavour of the buckthorn is ſomewhat corrected by the ſugar, and the addition of aromatics.

SPIRITUS CORNU CERVI; [*Ed.*] *Ammoniæ ex oſſibus vel cornubus animalium paratæ, portio volatilior liquida diſtillatione purificata ut decolor ſit.*

Spirit of harts-horn.

This is the more volatile liquid part of the alkaline ſalt, obtained from the bones and horns of animals, well rectified by diſtillation ſo as to become colourleſs.

The volatile alkali, as got by diſtillation with a ſtrong fire from any animal matter, from ſoot, &c. is, when pure, one and the ſame thing.

Of the mode of obtaining it we ſhall afterwards have occaſion to ſpeak, under the head of preparations, when we come to mention the *Liquor volatilis, ſal, et oleum, cornu cervi*, which, although they derive their name from hartſhorn, may be obtained from any animal ſubſtance, excepting fat.

As firſt diſtilled from the ſubject, this liquor is impregnated with oil, rendered fetid or empyreumatic by the proceſs. The oily volatile alkali has been chiefly prepared by diſtillation in large iron pots, with a fire increaſed by degrees to a ſtrong red heat: a watery liquor riſes firſt, then the volatile ſalt, along with a yellowiſh, and at length a dark reddiſh oil; a part of the ſalt diſſolves in the water and forms the ſpirit, which is conſiderably ſeparated from the oil by filtration through wet paper. It is rectified by repeated diſtillations with a very gentle heat. Greateſt part of the ſalt always comes over before the water, a little of the ſalt is generally allowed to remain undiſſolved as a teſt of the ſtrength of the ſpirit. However colourleſs the ſalt or ſpirit of hartſhorn may be thus rendered; yet by keeping they become yellow and nauſeous, owing to the quantity of oil which they ſtill retain. The Edinburgh college order this article to be got from the manufacturer, rather than prepared by the apothecary himſelf, who cannot do it to any advantage.

The volatile alkali is got in its pureſt ſtate from ſal ammoniac. It is uſed externally, held to the noſe, on account of its pungent odour, in caſes of faintneſs and ſyncope; and mixed with unctuous matter as a rubefacient. It is uſed internally to obviate ſpaſm in hyſteria, torpor in hypochondriaſis, and with a view to excite the vis vitæ.

It has alſo been ſaid, that in ſome inſtances intermittents have been ſucceſsfully cured by it, even after the Peruvian bark had failed. With this view fifteen drops of the ſpirit are given in a tea cupful of cold ſpring water, and repeated five or ſix times in each intermiſſion.

SPIRITUS VINOSUS RECTIFICATUS [*Lond.*] *Continet alkoholis partes* 95 *et aquæ diſtillatæ partes* 5 *in partibus* 100; *hujus pondus ſpecificum eſt ad pondus aquæ diſtillatæ ut* 835 *ad* 1000

SPIRITUS VINOSUS RECTIFICATUS ſive PURISSIMUS [*Ed.*] *Spiritus diſtillatus ex vino vel aliis liquoribus fermentatis ab odore ingrato purificatus, cujus libra menſura ſit ponderis unciarum decem.*

Rectified ſpirit of wine. By the direction of the London college it is ſaid to contain 95 parts of pure alkohol and 5 of water in the 100, and to be of the ſpecific gravity of 835, water being 1000.

The Edinburgh college does not mention the quantity of alkohol which it contains, and determines its ſpecific gravity by ſaying the pound meaſure of it ought to weigh ten ounces, i. e. its ſpecific gravity is to that of water as 10 to 12 or as 833⅓ to 1000.

The purification of the ſpirit is effected by one or more repeated diſtillations in a very gentle heat, with certain additions to keep down the phlegm and the groſs oil, in which the ill flavour reſides. Theſe ſpirits, whatever vegetable ſubjects they have been produced from, are, when perfectly pure, one and the ſame. They have a hot pungent taſte, without any particular flavour; they readily catch flame, and burn entirely away, without leaving any marks of an aqueous moiſture behind: diſtilled by a heat leſs than that of boiling water, they totally ariſe, the laſt runnings proving as flavourleſs and inflammable as the firſt: they diſſolve eſſential vegetable oils and reſins into an uniform tranſparent fluid.

The uſes of vinous ſpirits, as menſtrua for the virtues of other medicines, will be mentioned hereafter. Pure ſpirit coagulates all the fluids of animal bodies, except urine, and it alſo hardens the ſolid parts. Applied externally, it ſtrengthens the veſſels, and thus may reſtrain paſſive hemorrhagies.

It inſtantly contracts the extremities of the nerves it touches and deprives them of ſenſe and motion. Hence employing ſpirituous liquors in fomentations, notwithſtanding the ſpecious titles of vivifying, heating, reſtoring mobility, reſolving, diſſipating, and the like, uſually attributed to them, may ſometimes be attended with unhappy conſequences. Theſe liquors received undiluted into the ſtomach, produce the ſame effects, contracting all the ſolid parts which they touch, and deſtroying, at leaſt for a time, their uſe and office: if the quantity be conſiderable, a palſy or apoplexy follows, which ends in death. Taken in ſmall quantity, and duly diluted, they brace up the fibres, raiſe the ſpirits, and promote agility: if farther continued, the ſenſes are diſordered, voluntary motion deſtroyed, and at length the ſame inconveniences brought on as before. Vinous ſpirits, therefore in ſmall doſes, and properly diluted, may be applied to uſeful purpoſes in the cure of diſeaſes, while in larger ones they act as a poiſon of a particular kind. And they generally prove deleterious from long continued uſe to ſuch a degree as frequently to intoxicate.

SPIRITUS VINOSUS TENUIOR [*Lond.*] *Continet alkoholis partes* 55, *et aquæ diſtillatæ partes* 45 *in partibus* 100. *Hujus pondus ſpecificum eſt ad pondus aquæ diſtillatæ ut* 930 *ad* 1000.

SPIRITUS VINOSUS TENUIOR, ſive DILUTUS [*Ed*] *Spiritus rectificatus cui immixta fuerit aquæ pars æqua, qualem lingua vernacula vocamus PROOF SPIRITS.*

Proof ſpirit of wine. It contains, according to the London college, 55 parts of alkohol and 45 of diſtilled water in 100. Its ſpecific gravity is to that of diſtilled water as 930 to 1000.

The Edinburgh college direct proof ſpirit to be made by mixing equal parts of water and rectified ſpirit.

The ſpirits uſually called *proof*, are diſtilled from different fermented liquors, freed from their phlegm and ill flavour only to a certain degree. Their purity, with regard to flavour, may be eaſily determined from the taſte, eſpecially if the ſpirit be firſt diluted. It were to be wiſhed that we had a certain ſtandard with regard to their ſtrength or the quantity of water contained in them; a circumſtance which greatly influences ſeveral medical preparations, particularly the tinctures: for as pure ſpirit diſſolves the reſin and volatile oil, and water only the gummy and ſaline parts of vegetables, it is evident that a variation in the proportions wherein theſe are mixed, will vary the diſſolving power of the menſtruum, and conſequently the virtue of the preparation; and from this circumſtance, apothecaries would do better by preparing it themſelves, according to the directions of the Edinburgh college than by purchaſing it from dealers.

SPONGIA [*Lond Ed.*]
Spongia officinalis Lin.
Sponge.

Sponge is a ſoft, light, very porous and compreſſible ſubſtance, readily imbibing water, and diſtending thereby. It is found adhering to rocks, particularly in the Archipelago. It is generally ſuppoſed to be a vegetable production: but is in reality of animal origin, for it yields the ſame principles with animal ſubſtances in general: volatile ſalt is obtained from it in larger quantity than from almoſt any animal matter, except the bags of the ſilk worm On this ſalt ſeem to depend the virtues of the officinal *ſpongia uſta*, which has been ſtrongly recommended in ſcrophulous affections; and particularly celebrated for removing that large ſwelling of the neck, termed *bronchocele*, which is probably of a ſcrophulous nature.

Crude ſponge from its property of imbibing, and being diſtended by moiſture, is ſometimes uſed as a tent for dilating wounds; and to fit it for theſe intentions the ſponge is immerſed in melted wax, and ſubjected to preſſure till cool: In this ſtate it may be eaſily formed into proper tents, ſo as to be introduced where neceſſary; and from the gradual melting of the wax, in conſequence of the heat of the part, a dilatation of courſe takes place.

It adheres ſtrongly to the mouths of wounded veſſels; and when retained by proper compreſſion, it has prevented conſiderable bleedings preferably to agaric, or puff-ball.

STANNUM [*Lond. Ed.*] *Limatura et Pulvis.*

The filings and powder of tin.

Tin is the lighteſt and moſt fuſible of all metals. Heated, it becomes ſo brittle as to fall in pieces by a blow; and by agitation (when juſt ready to melt) it is formed into a powder: hence the officinal method of pulveriſing this metal, to be deſcribed in its place. The proper menſtruum of tin is aqua regia. Vegetable acids likewiſe diſſolve it in conſiderable quantity, though it has long been ſuppoſed not to be at all ſoluble in them, unleſs previouſly well calcined.

This metal was formerly accounted a ſpecific in diſorders of the uterus and lungs; a calx of tin and antimony is ſtill retained in ſome diſpenſatories, under the name of an *antihectic:* but theſe are virtues to which it certainly has little claim. It has been celebrated as an anthelmintic: and is ſaid to deſtroy ſome kinds of worms which elude the force of other medicines, particularly the tænia: poſſibly the cauſe of this effect may be from an admixture of a portion of arſenic. Tin has a ſtrong affinity with arſenic: inſomuch, that when once united therewith, the arſenic, notwithſtanding its volatility in other circumſtances, cannot be totally expelled, either by ſlow calcination or by a vehement fire. Almoſt all the ores of tin contain more or leſs of this poiſonous mineral, which is not entirely ſeparable in the common proceſſes by which the ores are run down, or the metal farther purified. Filings of tin held in the flame of a candle, emit a thick fume, ſmelling of garlic: which ſmell is univerſally held in mineral ſubſtances to be a criterion of arſenic. Mr Henckel has diſcovered a method of ſeparating actual arſenic, from tin, by ſolution in aqua regia and cryſtalliſation. Mr Margraff has given a farther account of this proceſs: and relates, that from the tins uſually reputed pure, he has obtained one eighth of their weight of cryſtals of arſenic.

But, notwithſtanding theſe obſervations, *ſtannum pulveriſatum*, afterwards to be mentioned, is every day taken internally with perfect impunity, even in ounce doſes, although, unleſs in caſes of tænia, it is in general employed in much ſmaller doſes.

STAPHISAGRIA [*Lond. Ed.*] *Semen.*

Delphinium Staphiſagria Lin.

Staveſacre; the ſeeds.

Theſe are large rough ſeeds, of an irregularly triangular figure, of a blackiſh colour on the outſide, and yellowiſh or whitiſh within: they are uſually brought from Italy; the plant is not very common in this country, though it bears our ſevereſt colds. They have a diſagreeable ſmell, and a very nauſeous, bitteriſh, burning taſte. Staveſacre was employed by the antients as a cathartic; but it operates with ſo much violence both upwards and downwards, that its internal uſe has been among the generality of practitioners, for ſome time laid aſide. It is chiefly employed in external applications, for ſome kinds of cutaneous eruptions, and for deſtroying lice and other inſects; inſomuch, that from this virtue it has received its name, in different languages; *herba pedicularis*, *herbe aux poux*, *lauſskraut*, *louſewort*, *&c.*

STIBIUM. See ANTIMONIUM.

STŒCHAS, [*Brun.*] *Flos.*

Lavendula ſtœchas Lin.

Arabian ſtechas, or French lavender flowers.

This is a ſhrubby plant, conſiderably ſmaller than the common lavender. The flowery heads are brought from Italy and the ſouthern parts of France: they are very apt to grow mouldy in the paſſage; and even when they eſcape this inconvenience, are generally much inferior to thoſe raiſed in our gardens. The beſt ſtechas which we receive from abroad, has no great ſmell or taſte: Pomet affirms, that ſuch as the ſhops of Paris are ſupplied with is entirely deſtitute of both; while that of our own growth, either when freſh or when carefully dried, has a very fragrant ſmell, and a warm, aromatic, bitteriſh, ſubacrid taſte: diſtilled with water, it yields a conſiderable quantity of a fragrant eſſential oil: to rectified ſpirit it imparts a ſtrong tincture, which inſpiſſated proves an elegant aromatic extract. This aromatic plant is rarely met with in preſcription; the only officinal compoſitions into which it was admitted, were the mithridate and theriaca.

There is another ſort called *ſtechas*, which from the beauty and durability of its flowers has of late years had a place in our gardens, and whoſe aromatic qualities render it worthy of attention; this is the *Gnaphalium arenarium Lin.* the golden ſtechas, goldilocks, or yellow caſſidony; its flowers ſtand in umbels on the tops of the branches; they are of a deep ſhining yellow colour, which, when they are properly dried, they retain in perfection for many years; their ſmell is fragrant and agreeable, ſomewhat of the muſky kind; their taſte warm, pungent, and ſubaſtringent: they impart their flavour to water in diſtillation, and by infuſion to rectified ſpirit.

STRAMONIUM [*Ed.*] *Herba.*

Datura Stramonium Lin.

Thorn apple; the herb.

The ſtramonium was commonly

conſidered as a ſtrong narcotic poiſon; but has been highly recommended to the attention of practitioners by Dr Stoerk of Vienna. It grows indigenous in ſome parts of Britain, among rubbiſh and on dunghills. It has been uſed internally, under the form of an extract or inſpiſſated juice from the leaves. This extract has been chiefly employed in maniacal caſes; and when given in doſes of from one to ten grains or upwards in the courſe of the day, it has been alleged to be attended with ſurpriſing effects, on the authority not only of Dr Stoerk, but of Dr Odhelius, Dr Wedenberg, and others. Dr Odhelius in particular informs us, that of fourteen patients to whom he gave it, eight were completely cured, five were relieved, and one only received no benefit. We have not, however, heard of its being equally ſucceſsful in Britain; and it is here ſo little employed as to have ſtill no place in the pharmacopœia of the London college. It certainly deſerves the attention of practitioners, and well merits a trial, in affections often incurable by other means. The powder of the leaves or ſeeds promiſes to furniſh a more certain or convenient formula than the inſpiſſated juice. Beſides maniacal caſes the ſtramonium has been alſo employed, and ſometimes with advantage, in convulſive and epileptic affections. It is not only taken internally, but has alſo been uſed externally. An ointment prepared from the leaves of the ſtramonium has been ſaid to give eaſe in external inflammations and in hæmorrhoids.

STYRAX CALAMITA

[*Lond. Ed.*] *Reſina.*

Styrax officinalis Lin.

Storax.

This is an odoriferous reſinous ſubſtance, exuding from a tree growing in the warmer climates.

It has been cuſtomary to diſtinguiſh three ſorts of ſtorax, though only one is uſually met with in the ſhops.

1 *Styrax calamita*, or *ſtorax in the cane*, ſo called from its having been formerly brought incloſed in reeds from Pamphylia. It is either in ſmall diſtinct tears of a whitiſh or reddiſh colour, or in large maſſes compoſed of ſuch.

2. *Storax in the lump* or *red ſtorax*. This is in maſſes of an uniform texture, of a yellowiſh red or browniſh colour; though ſometimes likewiſe interſperſed with a few whitiſh grains. Of this ſort there has been ſome to be lately met with in the ſhops under the name of *ſtorax in the tear*.

3. The *common ſtorax* of the ſhops is in large maſſes, conſiderably lighter and leſs compact than the foregoing: it appears on examination to be compoſed of a fine reſinous juice, mixed with a quantity of ſaw duſt. For what purpoſe this addition is made, is difficult to ſay, but it can ſcarcely be ſuppoſed to be done with any fraudulent view, ſince the ſaw duſt appears at ſight. This common ſtorax is much leſs eſteemed than the two firſt ſorts; though, when freed from the woody matter, it proves ſuperior in point of fragrance to either of them. Rectified ſpirit, the common menſtruum of reſins, diſſolves the ſtorax, leaving the wood behind; nor does this tincture conſiderably loſe its valuable parts on being inſpiſſated to a ſolid conſiſtence; while aqueous liquors elevate

almoſt all the fragrancy of the ſtorax.

Storax is one of the moſt agreeable of the odoriferous reſins and may be exhibited to great advantage in languors, and in debilities of the nervous ſyſtem; it is not, however, much uſed in modern practice.

STYRAX LIQUIDA [*Dan.*]
Liquidambra ſtyraciflua Lin.
Liquid ſtorax.

The genuine liquid ſtorax, according to Petiver's account, is obtained from a tree growing in the iſland Cobros in the Red Sea: the preparers of this commodity yearly clear off the bark of the tree, and boil it in ſea water to the conſiſtence of bird lime; the reſinous matter which floats on the ſurface is taken off, liquified in boiling water, and paſſed through a ſtrainer. The purer part which paſſes through, and the more impure which remains on the ſtrainer, and contains a conſiderable portion of the ſubſtance of the bark, are both ſent to Moco; from whence they are ſometimes, though very rarely, brought to us. The firſt is of the conſiſtence of honey, tenacious, of a reddiſh or aſh brown colour, an acrid unctuous taſte; and approaches in ſmell, to the ſolid ſtorax, but ſo ſtrong as to be diſagreeable: the other is full of woody matter, and much weaker in ſmell.

The genuine liquid ſtorax is even at Moco a rare commodity and ſold at a very high price, and it has ſeldom entered the ſhops of other apothecaries. A reſinous juice, poſſeſſing ſomewhat of the ſame ſenſible qualities, brought from the Spaniſh provinces in South America, and perhaps the product of the ſame tree, is ſometimes ſold in place of it. But much more frequently what we meet with under this name is an artificial compound of ſolid ſtorax, common reſin, wine, and oil, beat up together to a proper conſiſtence. Concerning the real virtues of liquid ſtorax, obſervations are altogether wanting: hence the London and Edinburgh colleges have expunged it from the catalogue of officinals.

SUCCINUM [*Lond. Ed.*]
Amber.

This is a ſolid, brittle, bituminous ſubſtance, dug out of the earth, or found upon the ſea-ſhores: the largeſt quantities are met with along the coaſts of Poliſh Pruſſia and Pomerania. It is of a white yellow, or brown colour, ſometimes opake, and ſometimes very clear and tranſparent. The dark coloured and opake ſorts, by digeſtion with certain expreſſed oils and animal fats, become clearer, paler coloured, more pellucid, and conſiderably harder. Amber boiled in water, neither ſoftens nor undergoes any ſenſible alteration: expoſed to a greater heat, without addition, it melts into a black maſs like ſome of the more common bitumens: ſet on fire, its ſmell reſembles that which ariſes from the finer kinds of pitcoal: diſtilled in a retort, it yields an oil and a volatile acidulous ſalt.

Amber in ſubſtance has very little ſmell or taſte; and hence it has by ſome been reckoned a mere inactive earthy body. It was formerly accounted an abſorbent, and as ſuch had a place in the compound powder of crabs-claws: it certainly has no title to this claſs of medicines, as not being acted on by any acid. It is ſuppoſed to be of ſervice in the fluor albus, gleets, hyſteric affections, &c; and with theſe intentions is ſometimes given in the form of impalpable powder, to the quantity of a drachm. A tincture of amber made in rectified ſpirit, to which it imparts a bitteriſh aromatic taſte and a fragrant ſmell, promiſes to be of ſervice in theſe diſorders. Boerhaave extols this tincture as having incredible efficacy in all thoſe diſtempers which proceed from weakneſs and relaxation, and in hypochondrical, hyſterical, and cold languid caſes If part of the ſpirit be abſtracted by a gentle heat, the remainder proves a very elegant aromatic balſam, which is perhaps one of the moſt uſeful preparations obtainable from this concrete.

Amber in the ſtate of powder formerly entered ſeveral officinal compoſitions, from all which it is now rejected: but it is the baſis of an oil and ſalt to be afterwards mentioned among the preparations which are ſometimes uſed in the ſtate in which they are at firſt obtained, but more frequently in a purified or rectified ſtate.

SULPHUR [*Lond.*] SULPHURIS FLORES [*Lond. Ed.*] *Sulphur ſublimatum.*

Sulphur; and flowers of ſulphur.

Sulphur, or brimſtone, is a yellow ſubſtance, of the mineral kingdom, fuſible in a ſmall degree of heat, totally volatile in a ſtronger, readily inflammable, burning with a blue flame, which is accompanied with a ſuffocating acid fume. It diſſolves in alkaline liquors and in oils; not in acids, water, or vinous ſpirits.

It is uſually brought to us in large irregular maſſes, which are afterwards melted and caſt into cylindrical rolls with the addition of ſome coarſe reſin, flour, or the like; whence the paler colour of the rolls. Sulphur is frequently found native in the earth, ſometimes in tranſparent pieces of a greeniſh or bright yellow colour; but more commonly in opaque grey ones, with only ſome ſtreaks of yellow. This laſt is the ſort which is called *ſulphur vivum*; though that met with under this name in the ſhops, is no other than the droſs remaining after the ſublimation of Sulphur. All the ſorts of ſulphur are, when perfectly pure, in no reſpect different from each other. Notwithſtanding the preference given by ſome to the more uncommon foſſil ſorts, theſe laſt are the leaſt proper for medicinal purpoſes, as being the moſt ſubject to an admixture of foreign matter both of the metallic and arſenical kind.

Pure ſulphur looſens the belly, and promotes inſenſible perſpiration: it paſſes through the whole habit, and manifeſtly tranſpires through the pores of the ſkin, as appears from the ſulphureous ſmell of perſons who have taken it, and from ſilver being ſtained in their pockets of a blackiſh colour, which is the known effect of ſulphureous fumes. It is a celebrated remedy againſt cutaneous diſeaſes, both given internally and applied externally. It has likewiſe been recommended in coughs, aſthmas, and other diſorders of the breaſt and lungs; and particularly in catarrhs of the chronic kind. But probably, the benefit derived from it in theſe caſes, is principally, if not entirely, to be attributed to its operation as a gentle laxative; and with this intention it is frequently uſed with great advantage in hæmorrhoidal affections, and many other diſeaſes in which it is proper to keep the belly gently open. Though ſulphur be not ſoluble in water, yet boiling water poured upon it in a cloſe veſſel, obtains ſome impregnation. This water has by ſome been highly extolled as a very effectual remedy for preventing returns of gout and rheumatiſm.

The common doſe of ſulphur rarely exceeds a ſcruple, though Geoffroy goes as far as two drachms.

Sulphur is the baſis of two formulæ in our pharmacopœias, troches and an ointment: the former intended for internal uſe, the latter to be employed externally.

It is remarkable of this ſubſtance that though a medicine of conſiderable efficacy, it nevertheleſs reſtrains that of ſome others of the moſt powerful kind. Mercury and regulus of antimony are rendered, by the admixture of ſulphur, inactive. Hence, when antimonial and mercurial medicines exceed in operation, ſulphur has been given for abating their violence: but the influence it has probably depends on its operating as a gentle laxative.

SUS ADEPS [*Lond.*]
AXUNGIA PORCINA [*Edin.*]

Sus ſcrofa Lin.

Hogs-lard.

In hogs-lard we have a very pure animal fat, almoſt entirely free from any peculiar impregnation and of a ſoft conſiſtence. Hence it is a very uſeful emollient for relaxing thoſe parts to which it is applied; and it is alſo a very convenient article for giving the proper conſiſtence to ointments, plaſters, and liniments. Indeed this, and the ſevum ovillum or mutton ſuet, are the only fats now retained by the London and Edinburgh Colleges, although formerly more than twenty different fats entered ſome liſts of the materia medica. Each particular fat was then ſuppoſed to poſſeſs peculiar properties; but for this there was probably no foundation: even thoſe retained are now leſs employed than before, as it has been imagined that a proper conſiſtence of any kind may be more certainly obtained by determined proportions of wax and oil; but as theſe articles are more expenſive, hogs-lard and mutton-ſuet are often ſubſtituted for them by the apothecaries.

TACAMAHACA [*Brun.*] *Reſina.*

Populus balſamifera Lin.

Tacamahaca; the reſin.

This reſinous ſubſtance is obtained from a tall tree, which grows ſpontaneouſly on the continent of America, and in a ſheltered ſituation bears the winters of our climate. Two ſorts of this reſin are ſometimes to be met with. The beſt, called from its being collected in a kind of gourd-ſhells, *tacamahaca in ſhells*, is ſomewhat unctuous and ſoftiſh, of a pale yellowiſh or greeniſh colour, an aromatic taſte, and a fragrant delightful ſmell, approaching to that of lavender and ambergris. This ſort is very rare; that commonly found in the ſhops is in ſemitranſparent grains or glebes, of a whitiſh, yellowiſh, browniſh, or greeniſh colour of a leſs grateful ſmell than the foregoing. The firſt is ſaid to exude from the fruit of the tree, the other from inciſions made in the trunk. This reſin is employed among the Indians, externally, for diſcuſſing and maturating tumours, and abating pains and achs of the limbs. The fragrance of the finer ſort ſufficiently points out its being applicable to different purpoſes.

TAMARINDUS [*Lond. Ed.*]

Fructus.

Tamarindus indica Lin.

Tamarinds; the fruit.

Tamarinds are the fruit of a tree growing in the Eaſt and Weſt Indies. It reſembles a bean pod, including ſeveral hard ſeeds, together with a dark coloured viſcid pulp of a pleaſant acid taſte: the Eaſt India tamarinds are longer than the Weſt India ſort; the former containing ſix or ſeven ſeeds each, the latter rarely above three or four. The pulp of theſe fruits, taken in the quantity of from two or three drachms to an ounce or more, proves gently laxative and purgative; and at the ſame time, by its acidity, quenches thirſt, and allays immoderate heat. It increaſes the action of the purgative ſweets, caſſia and manna, and weakens that of the reſinous cathartics. Some have ſuppoſed it capable of abating the virulence of antimonial preparations: but experience ſhews that it has rather a contrary effect, and that all vegetable acids augment their power. Tamarinds are an ingredient in the electuary of caſſia, the lenitive electuary, and decoction of tamarinds with ſenna.

TANACETUM [*Lond. Ed.*]

Flos, herba.

Tanacetum vulgare Lin.

Tanſy; the flower and herb.

Tanſy grows wild by road ſides and the borders of fields, and is frequently alſo cultivated in gardens both for culinary and medicinal uſes: it flowers in June and July. Conſidered as a medicine, it is a moderately warm bitter, accompanied with a ſtrong, not very diſagreeable flavour; ſome phyſicians have had a great opinion of it in hyſteric diſorders, particularly thoſe proceeding from a deficiency or ſuppreſſion of the uterine purgations. The leaves and ſeeds have been of conſiderable eſteem as anthelmintics; the ſeeds are leſs bitter, and more acrid and aromatic than thoſe of rue, to which they are reckoned ſimilar; or of ſantonicum, for which they have been frequently ſubſtituted.

An infuſion of tanſy, drank in a manner ſimilar to tea, has been ſtrongly recommended as a preventative of the return of gout.

THAPSUS BARBATUS.

See Verbascum.

TARAXACUM [*Lond. Ed.*]

Radix, herba.

Leontodon Taraxacum Lin.

Dandelion: the leaves and root.

This plant is very common in graſs fields and uncultivated places. The root, leaves, and ſtalk, contain a large quantity of a bitter milky juice. There is reaſon to believe that they poſſeſs very conſiderable activity; and with that intention they have ſometimes been employed with ſucceſs. Boerhaave eſteems them capable, if duly continued, of opening very obſtinate obſtructions of the viſcera. A ſpirit obtained from them by diſtillation, after previous fermentation, has been ſtrongly recommended by Profeſſor Delius of Erlang in aſthmatic diſorders, in coughs, proceeding from glandular obſtructions, and in hydropic affections.

TARTARI CRYSTALLI

[*Ed.*] *Tartarum purificatum.*

Tartar is a ſaline ſubſtance, conſiſting of the vegetable alkali ſuper-ſaturated with acid. It is thrown off from wines to the ſides and bottom of the caſk: In this ſtate it is mixed with earthy, oily, and colouring matter: and when it has a deep brown colour, as that from red wine, it is commonly called *red*, and when of a paler colour *white tartar.* It is purified by diſſolving it in boiling water, and ſeparating the earthy part by filtering the boiling ſolution. On cooling the ſolution, it depoſites irregular cryſtals, containing the oily and colouring matters, which are ſeparated by boiling the maſs with a white clay. The tartar thus purified, is called when cryſtalliſed *cryſtals of tartar*, and when in powder *cream of tartar.* If tartar be expoſed to a red heat, its acid flies off; and what remains is the vegetable alkali, or ſalt of tartar. If we add lime to a boiling ſolution of pure tartar, the lime falls down with the acid, in the form of an inſoluble precipitate, and the alkali remains diſſolved in the water. To this precipitate well waſhed, diluted vitriolic acid is added; which having a ſtronger attraction for the lime than the acid of tartar has, takes hold of the lime with which it forms an inſoluble compound. and the acid of tartar is held diſſolved in the water. This acid may be had in a ſolid cryſtalline form by evaporating the water.

The virtues of tartar are thoſe of a mild, cooling, aperient, laxative medicine. It is much uſed in dropſy; and ſome allege that it has good effects as a deobſtruent. From half an ounce to an ounce of it proves a gentle though effectual purgative: Angelus Sala relates, that he was cured of an habitual colic by purging himſelf a few times with ſix drachms of the crude tartar, after many other medicines had been tried in vain.

The cryſtals of tartar are in daily uſe, merely by themſelves, either taken in powder or diſſolved in water; and there are perhaps few medicines more commonly employed.

This ſalt is an ingredient in the compound infuſion of ſenna, compound powders of ſenna, of jalap, and of ſcammony: and it is uſed for diſſolving or corroding ſome metallic bodies, particularly antimony, from which it receives a ſtrong emetic impregnation, as in the preparation formerly called *emetic tartar*, but now more properly ſtyled *antimonium tartariſatum.*

TEREBINTHINA.

Turpentine

The turpentines are reſinous juices extracted from trees of the pine-tribe. Four kinds of it are diſtinguiſhed in the ſhops.

TEREBINTHINA CHIA

[*Lond.*] *Piſtacia Terebinthus Lin.*

Chian, or Cyprus turpentine.

This juice is generally about the conſiſtence of thick honey, very tenacious, clear, and almoſt tranſparent, of a white colour, with a caſt of a yellow, and frequently of blue: it has a warm, pungent, bitteriſh taſte: and a fragrant ſmell, more agreeable than any of the other turpentines.

The turpentine brought to us, is extracted in the iſlands whoſe names it bears, by wounding the trunk and branches a little after the buds have come forth; the juice iſſues limpid, and clear as water, and by degrees thickens into the conſiſtence in which we meet with it. A like juice exuding from this tree in the eaſtern countries, inſpiſſated by a ſlow fire, is of frequent uſe as a maſticatory among the Perſian ladies, who, as Kœmpfer informs us, are continually chewing it, in order to faſten and whiten the teeth, ſweeten the breath, and promote appetite.

TEREBINTHINA VENETA. [*Ed.*] *Reſina et oleum eſſentiale.*

Pinus Larix Lin.

Venice turpentine.

This is uſually thinner than any of the other ſorts, of a clear, whitiſh, or pale yellowiſh colour, a hot, pungent, bitteriſh, diſagreeable taſte, and a ſtrong ſmell, without any thing of the fine aromatic flavour of the Chian kind.

What is uſually met with in the ſhops, under the name of *Venice turpentine*, comes from New England; of what tree it is the produce, we have no certain account: the finer kinds of it are in appearance and quality not conſiderably different from the true ſort above deſcribed.

TEREBINTHINA ARGENTORATENSIS.

Straſburg turpentine.

This, as we generally meet with it, is of a middling conſiſtence between the two foregoing, more tranſparent, and leſs tenacious than either; its colour a yellowiſh brown. Its ſmell is very fragrant, and more agreeable than that of any of the other turpentines, except the Chian; in taſte it is the bittereſt, yet the leaſt acrid.

TEREBINTHINA VULGARIS [*Lond.*]

Pinus Abies Lin.

Common turpentine.

This is the coarſeſt, heavieſt, and in taſte and ſmell the moſt diſagreeable of all the ſorts: it is about the conſiſtence of heony, of an opake browniſh white colour.

It is obtained from the white fir, common in different parts of Europe. This tree is extremely reſinous, and remarkably ſubject to a diſeaſe from a redundance and extravaſation of its reſin, inſomuch, that without due evacuation it ſwells and burſts. The juice as it iſſues from the tree is received in trenches made in the earth, and afterwards freed from the groſſer impurities by colature through wicker baſkets.

All theſe juices yield in diſtillation with water an highly penetrating eſſential oil; a brittle reſin remaining behind. With regard to their medical virtues, they promote urine, cleanſe the urinary paſſages and deterge internal ulcers in general; and at the ſame time, like other bitter hot ſubſtances, ſtrengthen the tone of the veſſels: they have an advantage above moſt other acrid diuretics that they gently looſen the belly. They are principally recommended in gleets, the fluor albus, and the like; and by ſome in calculous complaints: where theſe laſt proceed from the ſand or gravel, formed into a maſs by viſcid mucous matter, the turpentines, by diſſolving the mucus, promote the expulſion of the ſand; but where a calculus is formed, they can do no ſervice, and only ineffectually irritate or inflame the parts. It all caſes accompanied with inflammation, theſe juices ought to be abſtained from, as this ſymptom is increaſed, and frequently occaſioned, by them. It is obſervable, that the turpentines impart, ſoon after taking them, a violet ſmell to the urine; and have this effect though applied only externally to remote parts: particularly the Venice ſort. This is accounted the moſt powerful as a diuretic and detergent; and the Chian and Straſburgh as corroborants. The common turpentine, as being the moſt offenſive is rarely given internally; its principal uſe is in plaſters and ointments among farriers, and for the diſtillation of the oil, or ſpirit, as it is called. The doſe of theſe juices is from a ſcruple to a drachm and a half; they are moſt commodiouſly taken in the form of a bolus, or diſſolved in watery liquors by the mediation of the yolk of an egg or mucilage. Of the diſtilled oil, a few drops are a ſufficient doſe; this is a moſt potent, ſtimulating, detergent diuretic, oftentimes greatly heats the conſtitution, and requires the utmoſt caution in its exhibition. Taken internally when mixed with honey, it has been alleged to prove a powerful remedy in obſtinate rheumatic caſes, particularly in iſchias.

TERRA JAPONICA. See Catechu.

THEA [*Brun.*] *Folium.*
Thea bohea et viridis Lin.
Tea the leaf.

The ſeveral ſorts of tea met with among us, are varieties of two ſpecies of trees the one called Green and the other Bohea. The taſte of both ſorts is ſlightly bitteriſh, ſubaſtringent, and ſomewhat aromatic. The medical virtues attributed to theſe leaves are ſufficiently numerous, though few of them have any juſt foundation: little more can be expected from the common infuſions than that of a diluent, acceptable to the palate and ſtomach: the diuretic, diaphoretic and other virtues for which they have been celebrated, depend more on the quantity of warm fluid, than any particular qualities which it gains from the tea. Nothing ariſes in diſtillation from either ſort of tea with rectified ſpirit; water elevates the whole of their flavour.

Good tea, in a moderate quantity, ſeems to refreſh and ſtrengthen; but if taken in conſiderable quantity, its uſe is apt to be ſucceeded by weakneſs and tremors, and other ſimilar conſequences reſulting from the narcotic vegetables. Yet it is highly probable, that many of the bad, as well as good, effects ſaid to reſult from it, are the conſequences of the warm water.

THUS MASCULUM, ſee Olibanum.

THUS [*Lond.*] *Reſina.*
Common frankincenſe.

This is a ſolid, brittle reſin, brought to us in little globes or maſſes of a browniſh or yellowiſh colour on the outſide, internally whitiſh or variegated with whitiſh ſpecks, of a bitteriſh, acrid, not agreeable taſte, without any conſiderable ſmell. It is ſuppoſed to be the produce of the pine tree which yields the terebinthina communis, and to concrete on the ſurface of the terebinthinate juice ſoon after it has iſſued from the plant. It gives name to one plaſter, the *emplaſtrum thuris*, and is a principal ingredient in another, the *emplaſtrum ladani.*

THYMUS [*Ed.*] *Herba.*
Thymus vulgaris Lin.
Common thyme; the herb.

This plant is frequent in our gardens, and flowers in June and July. It has an agreeable aromatic ſmell, and a warm pungent taſte, which it imparts by infuſion to rectified ſpirit, and ſends over in diſtillation with water: along with the water an eſſential oil, extremely hot and pungent, alſo ariſes. This oil is often ſold in the ſhops for that of origanum. It frequently gives eaſe in caſes of odontalgia, when topically applied to a caries tooth.

TILIA [*Succ.*] *Flores.*
Tilia europæa Lin.
The lime, or linden tree; its flowers.

The lime tree has been much valued on account of its quick growth and pleaſant ſhade; it flowers in July, and loſes its leaves ſoon after. The flowers are chiefly uſed on account of their agreeable flavour, which water extracts from them by infuſion, and elevates in diſtillation. Among the writers on the materia medica, they have the character of an antiepileptic, and a ſpecific in all kinds of ſpaſms and pains. Frederick Hoffman relates, that he knew a chronical epilepſy cured by the uſe of an infuſion of theſe flowers drank as tea.

TINCAL. See BORAX.

TORMENTILLA [*Lond. Ed.*] *Radix.*
Tormentilla erecta Lin.
Tormentil, or ſeptfoil; the root.

Tormentil is found wild in woods and on commons: it has long ſlender ſtalks, with uſually ſeven long narrow leaves at a joint; the root is for the moſt part crooked and knotty, of a blackiſh colour on the outſide, and a reddiſh within. This root has an auſtere ſtyptic taſte, accompanied with a ſlight kind of aromatic flavour; it is one of the moſt agreeable and efficacious of the vegetable aſtringents, and is employed with good effect in all caſes where medicines of this claſs are proper. It is more uſed, both in extemporaneous preſcription and in officinal compoſition, than any of the other ſtrong vegetable aſtringents: it is an ingredient in the London compound powder of chalk. A tincture made from it with rectified ſpirit poſſeſſes the whole aſtringency and flavour of the root, and loſes nothing of either in inſpiſſating.

TRAGACANTHA, [*Lond. Ed.*] *Gummi.*
Aſtragalus Tragacanthus Lin.
Gum tragacanth.

The gum tragacanth is obtained from a thorny buſh growing in Crete, Aſia, and Greece. This gum is of a much ſtronger body than gum arabic, and does not ſo perfectly diſſolve in water. A drachm will give to a pint of water the conſiſtence of a ſyrup, which a whole ounce of gum arabic is ſcarcely ſufficient to do. Hence its uſe for forming troches, and the like purpoſes, in preference to the other gums. It gives name to an officinal powder, and is an ingredient in the compound powder of ceruſs.

TRICHOMANES [*Ed.*] *Herba.*

Aſplenium Trichomanes Lin.

Maidenhair; the herb.

This is one of the herbs called, from the ſmallneſs of their ſtalks, capillary: it is found wild in different parts of Britain, upon old walls, and in ſhady places. The leaves have a mucilaginous, ſweetiſh, ſubaſtringent taſte, without any particular flavour; they are eſteemed uſeful in diſorders of the breaſt, and are ſuppoſed to promote the expectoration of tough phlegm, and to open obſtructions of the viſcera. They are uſually directed in infuſion or decoction, with the addition of a little liquorice. A ſyrup prepared from them, though it has now no place in our pharmacopœias, is frequently to be met with in our ſhops, under the name of Capillaire. A little of this ſyrup mixed with water makes a very pleaſant draught. The ſyrup brought from abroad has an admixture of orange-flower water.

TRIFOLIUM PALUDOSUM [*Lond.*] *Herba.* MENYANTHES [*Edin.*] *Folia.*

Menyanthes trifoliata Lin.

Buck-bean, or marſh trefoil; the herb.

This plant grows wild in moiſt marſhy places; it has three oval leaves, ſtanding together upon one pedicle which iſſues from the root; their taſte is very bitter, and ſomewhat nauſeous. Marſh trefoil is an efficacious aperient and deobſtruent, promotes the fluid ſecretions, and if liberally taken, gently looſens the belly. Some recommend it in ſcrophulous and other ill-conditioned ulcers; inveterate cutaneous diſeaſes have been removed by an infuſion of the leaves drank to the quantity of a pint a day at intervals, and continued for ſome weeks. Boerhaave relates, that he was relieved of the gout by drinking the juice mixed with whey.

TRITICUM [*Lond.*] *Farina, amylum.*

Triticum hybernum Lin.

Wheat; the flour and ſtarch.

Wheat, a common article of food, is more nutritious than moſt other kinds of grain. The flour, or the ſtarch prepared from it, form with water a ſoft viſcid ſubſtance, which has been taken with good ſucceſs in diarrhœas and dyſenteries. Starch is an ingredient in the compound powder of gum tragacanth, and the white pectoral troches, which are now more properly ſtyled ſtarch troches.

Bran contains beſides the huſks or ſhells of the wheat, a portion of its farinaceous matter. This is leſs glutinous than the flour, and is ſuppoſed to have a detergent quality. Infuſions of bran are not unfrequently employed with this intention externally, and ſometimes likewiſe taken internally.

Bread, carefully toaſted, and infuſed, or ſlightly boiled in water, imparts a deep colour, and a ſufficiently agreeable reſtringent taſte. This liquor, taken as common drink, has done good ſervice in a weak lax ſtate of the ſtomach and inteſtines; and in bilious vomiting and purging, or the cholera morbus. Examples are related in the Edinburgh Eſſays of ſeveral caſes of this kind cured by it, without the uſe of any other medicine. It is alſo a very common and a very proper drink in diſeaſes of the febrile kind.

When a farinaceous powder is ſteeped in cold water and ſtrained through a cloth, a glutinous part remains in the cloth, which ſome ſuppoſe to be the nutrient principle, as it is quite ſimilar to animal jelly; a ſtarch paſſes through with the water, ſettles at the bottom, and a ſweet mucilage is kept diſſolved in the water. It is probably the juſt proportion of theſe three ingredients in wheat which gives that grain a preference in diet over the reſt. The gluten is inſoluble in water; but when mixed with the other two, and ſeaſoned with ſalt, and in that ſtate made to ferment by yeaſt or leaven, and this fermentation checked by the heat of the oven, the ingredients become ſo intimately united, that they cannot be ſeparated; the viſcidity of the gluten is diminiſhed, and the whole thus forms a very ſoluble and nutritious bread.

TURPETHUM [*Brun.*] *Radicis cortex.*

Convolvulus Turpethum Lin.

Turbith; the cortical part of the root.

The cortical part of this root is brought to us in oblong pieces, of a brown or aſh-colour, on the outſide, and whitiſh within. The beſt is ponderous, not wrinkled, eaſy to break, and diſcovers a large quantity of reſinous matter to the eye: its taſte is at firſt ſweetiſh; chewed for a little time, it becomes acrid, pungent, and nauſeous. This root is a cathartic, not of the ſafeſt or moſt certain kind. The reſinous matter, in which its virtue reſides, appears to be very unequally diſtributed, inſomuch that a ſcruple of ſome pieces purge violently, while larger doſes, of other pieces have ſcarce any effect at all. An extract made from the root is more uniform in ſtrength, though not ſuperior, or equal, to purgatives more common in the ſhops.

TUSSILAGO [*Lond. Ed.*] *Herba, flores.*

Tuſſilago Farfara Lin.

Colt's foot; the herb and flowers.

This grows wild in watery places, producing yellow flowers in February and March; theſe ſoon fall off, and are ſucceeded by large roundiſh leaves, hairy underneath: their taſte is herbaceous, ſomewhat glutinous, and ſubacrid. Tuſſilago ſtands recommended in coughs, phthiſis, and other diſorders of the breaſt and lungs, and ſome uſe it in ſcrophula. It is chiefly directed to be taken with milk; and upon this probably, more than on the tuſſilago itſelf, any benefit derived from it in practice is to be explained.

TUTIA [*Ed.*]

Tutty.

This is an impure ſublimate of zinc, or an argillaceous ſubſtance impregnated therewith, formed into tubulous pieces like the bark of a tree. It is moderately hard and ponderous; of a browniſh colour, and full of ſmall protuberances on the outſide, ſmooth and yellowiſh within; ſome pieces have a blueiſh caſt, from minute globules of zinc being thrown up by the heat in its metallic form. Tutty is celebrated as an ophthalmic, and frequently employed as ſuch in unguents and collyria: it gives name to an officinal ophthalmic ointment.

VALERIANA SYLVESTRIS [*Lond. Ed.*] *Radix.*

Valeriana officinalis Lin

Wild valerian; the root.

This root conſiſts of a number of ſtrings or fibres matted together, iſſuing from one common head; of a whitiſh or pale browniſh colour; its ſmell is ſtrong, like a mixture of aromatics with fetids; the taſte unpleaſantly warm, bitteriſh, and ſubacrid. There is a wild valerian, with broader leaves, of a deeper and ſhining green colour, met with in watery places. Both ſorts have been uſed indiſcriminately; and Linné has joined them into one ſpecies: but the firſt is conſiderably the ſtrongeſt, and loſes its quality if tranſplanted into ſuch ſoils as the other naturally delights in. The roots, produced in low watery grounds, have a remarkable faint ſmell in compariſon of the others, and ſometimes ſcarcely any at all. The roots taken up in autumn or winter, have alſo much ſtronger ſenſible qualities than thoſe collected in ſpring and ſummer. Wild valerian is a medicine of great uſe in nervous diſorders, and is particularly ſerviceable in epilepſies, proceeding from a debility of the nervous ſyſtem. It was firſt brought into eſteem in theſe caſes by Fabius Columna; who by taking the powdered root in the doſe of half a ſpoonful, was cured of an inveterate epilepſy, after many other medicines had been tried in vain. Repeated experience has ſince confirmed its efficacy in this diſorder; and the preſent practice lays conſiderable ſtreſs upon it. It can, however, by no means be repreſented as uniformly, or even frequently, ſucceſsful, and that too although employed in very large doſes. In the Edinburgh Diſpenſary, in caſes of epilepſy in which there was no evidence of local affection, it has been given to the extent of two ounces a day without effect.

Some authors recommend it as uſeful in procuring ſleep, particularly in fever, even when opium fails. But it is principally uſeful in affections of the hyſterical kind.

The common doſe is from a ſcruple to a drachm in powder; and in infuſion, from one to two drachms. Its unpleaſant flavour is moſt effectually concealed by a ſuitable addition of mace.

A tincture of valerian in proof, and in volatile ſpirit, are kept in the ſhops.

VERATRUM. See HELLEBORUS ALBUS.

VERBASCUM [*Ed.*] *Folium.*

Verbaſcum Thapſus Lin.

Mullein; the leaf.

This plant is met with by road ſides and under hedges. It is clothed with ſoft downy leaves, and produces long ſpikes of yellow flowers in July. To the taſte it manifeſts a glutinous quality, and has been recommended as an emollient. Some hold it in eſteem in conſumptions, others have recommended it ſtrongly in dyſenteric affections; but moſt practitioners are diſpoſed to put little dependence on it in either. It has ſometimes, although perhaps ſtill leſs frequently, been employed externally in ill conditioned ulcers.

VINCETOXICUM [*Suec.*] *Radix.*

Aſclepias Vincetoxicum Lin.

Swallow wort, or tame poiſon; the root.

This is a native of the warmer climates; it is ſometimes met with in our gardens, but rarely perfects its ſeeds. The root has a ſtrong ſmell, eſpecially when freſh, approaching to that of valerian, or nard; the taſte is at firſt ſweetiſh and aromatic, but ſoon becomes bitteriſh, ſubacrid, and nauſeous. This root is eſteemed ſudorific, diuretic, and emmenagogue, and frequently employed by the French and German phyſicians as an alexipharmac, ſometimes as a ſuccedaneum for contrayerva; whence it has received the name of *contrayerva Germanorum.* Among us it is very rarely uſed. It appears from its ſenſible qualities to be a medicine of much the ſame kind with valerian, which is probably preferable to it.

VINUM [*Lond. Ed.*]

Wine; the fermented juice of the grape. Among the great variety of wines in common uſe among us, four are employed in the ſhops as menſtrua for medicinal ſimples.

Vinum album Hiſpanicum, Mountain.

Vinum Canarium, Canary or ſack.

Vinum Rhenanum, Rheniſh.

Vinum Rubrum, Red port.

Wines conſiſt chiefly of water, alkohol, tartar, and an aſtringent gummy reſinous matter, in which the colour of red wines reſides, and which is ſqueezed out from the ſkins of the grapes. They differ from each other in the proportion of theſe ingredients, and particularly in that of the alkohol which they contain.

The uſes of theſe liquors as menſtrua and vehicles of the virtues of other medicines, will be given hereafter; in this place we ſhall conſider only their effects on the human body. Theſe are, to ſtimulate the ſtomach, cheer the ſpirits, warm the habit, promote perſpiration, render the veſſels full and turgid, raiſe the pulſe, and quicken the circulation.

Sweet wines are ſtronger than they appear from the taſte, becauſe two impreſſions ſtrike more feebly when combined than when ſeparate. Red port, and moſt of the red wines, have an aſtringent quality, by which they ſtrengthen the tone of the ſtomach and inteſtines, and are thus uſeful for reſtraining immoderate ſecretions. Thoſe which are of an acid nature, as Rheniſh, paſs freely by the kidneys, and gently looſen the belly. It is ſuppoſed that theſe laſt exaſperate or occaſion gouty and calculous diſorders; and that new wines of every kind have this effect.

Wine is much uſed in fevers of the typhous kind, and often with great ſucceſs, particularly when the appetite ſeems to call for it, and when the ſtomach rejects all food. Claret, Madeira, and Port are thoſe commonly employed in Britain.

VIOLA [*Lond. Ed.*] *Flos recens.*

Viola odorata Lin.

The march violet; the freſh flower.

This is often found wild in hedges and ſhady places, and flowers in March; the ſhops are generally ſupplied from gardens. In our markets we meet with the flowers of different ſpecies; theſe may be diſtinguiſhed from the foregoing by their being larger, of a pale colour, and of no ſmell. The officinal flowers have a very pleaſant ſmell, and a deep purpliſh blue colour, denominated from them *violet.* They impart their colour and flavour to aqueous liquors: a ſyrup made from this infuſion has long maintained a place in the ſhops, and proves an agreeable and uſeful laxative for children.

VIPERA [*Ed.*]

Coluber Berus Lin.

The viper.

The viper is an amphibious reptile, without feet, about an inch thick, and twenty or thirty long, The poiſon of this ſerpent is confined to its mouth: at the baſis of the fangs, or long teeth with which it wounds, is lodged a little bag containing the poiſonous liquid; a very minute portion of which mixed immediately with the blood proves fatal. Our viper-catchers are ſaid to prevent the miſchiefs otherwiſe following from the bite, by rubbing olive oil warm on the part. The fleſh of the viper is perfectly innocent; and ſtrongly recommended as a medicine of extraordinary ſervice in ſcrophulous, leprous, rheumatic, and other obſtinate chronical diſorders. Its virtues, however, in theſe caſes, are probably too much exaggerated. The viper is doubtleſs an highly nutritious food, and hence in ſome kinds of weakneſſes, and emaciated habits, is not undeſervedly conſidered as a good reſtorative. To anſwer any valuable purpoſes, freſh vigorous vipers, not ſuch as have been long kept alive after they are caught, ſhould be liberally uſed as food. The wines and tinctures of them can ſcarcely be ſuppoſed to receive any conſiderable virtue from the animal; the dry fleſh brought to us from abroad is probably entirely inſignificant.

VIRGA AUREA [*Brun.*] *Herba.*

Solidago Virga aurea Lin.

Golden root; the herb.

This is found wild on heaths and in woods, producing ſpikes of yellow flowers in Auguſt. The leaves have a moderately aſtringent bitter taſte; and hence prove ſerviceable in debility and laxity of the viſcera, and diſorders proceeding from that cauſe.

VISCUS [*Suec.*] *Lignum.*

Viſcus albus Lin.

Miſſeltoe; the wood.

This is a buſhy plant, growing on the trunk and branches of different trees: that met with on the oak is generally preferred, perhaps on account of its being the moſt rare. It may, however, be propagated by art by fixing its berries on branches of other trees. This office has hitherto been performed by the thruſh (who feeds on the berries in the winter) in clearing his bill from the ſeeds that ſtick about it. This plant was held in veneration by the ſuperſtition of former ages; it was hung about the neck to prevent witchcraft, and taken internally to expel poiſons. It has been celebrated as a ſpecific in epilepſies, palſies, &c.; virtues, to which it were greatly to be wiſhed that experience gave any countenance; but ſo little reliance is now put upon it, that it is entirely rejected both by the London and Edinburgh colleges.

VITIS [*Lond.*] *Fructus, Uva paſſa, Vinum, Tartarum, Tartari cryſtalli, Acetum.*

Vitis vinifera Lin.

The vine tree.

The leaves of this tree were formerly celebrated as aſtringents, but have for a long time been entirely diſregarded: their taſte is herbaceous, with only a ſlight roughneſs. The trunk of the tree, wounded in the ſpring, yields a clear, limpid, watery juice: This tear of the vine has been accounted excellent for ſore eyes; and by ſome recommended likewiſe in ardent and malignant fevers, and as a diuretic. The flowers have a pleaſant ſmell which water elevates from them in diſtillation; along with the water, a ſmall portion of an elegant eſſential oil is ſaid to ariſe, poſſeſſing in great perfection the fragrance of the flowers.—The unripe fruit is of a very harſh, rough, ſour taſte: its expreſſed juice, called verjuice, was in great eſteem among the antients, and ſtill continues ſo in ſome places, as a cooling aſtringent medicine: a rob and ſyrup were formerly prepared from it.—The ripe fruit or grapes, of which there are ſeveral kinds, properly cured and dried, are the raiſins of the ſhops: the juice by fermentation affords wine, vinegar, and tartar; of all which mention has already been made. See the articles, VINUM, ACETUM, TARTARUM, &c.

VITRIOLUM ALBUM. See ZINCUM.

VITRIOLUM CÆRULEUM. See CUPRUM.

VITRIOLUM VIRIDE. See FERRUM.

ULMARIA [*Brun.*] *Radix.*

Spirea Ulmaria Lin.

Meadow-ſweet, or Queen of the Meadows; the root.

This herb is frequent in moiſt meadows, and about the ſides of rivers; it flowers in the beginning of June, and continues in flower a conſiderable time. The flowers have a very pleaſant flavour, which water extracts from them by infuſion, and elevates in diſtillation. The leaves are herbaceous. But neither of theſe at preſent enter any pharmacopœias. The roots are uſed in ſome plaſters, in which they have probably no influence.

ULMUS [*Lond. Ed.*] *Cortex interior.*

Ulmus campeſtris Lin.

The elm-tree; the inner bark.

This bark has a mild aſtringent taſte. A decoction formed from it, by boiling an ounce with a pound of water, to the conſumption of one half, has been highly recommended by ſome, particularly by Dr Letſome in obſtinate cutaneous eruptions.

URTICA [*Lond. Ed.*] *Herba.*

Uretica dioica Lin.

Common nettle: the herb.

The leaves of the freſh nettle ſtimulate, inflame, and raiſe bliſters on thoſe parts of the ſkin which they touch. Hence when a powerful rubefacient is required, ſtinging with nettles has been recommended. It has been alleged to have ſometimes ſucceeded in reſtoring ſenſe and motion to paralytic limbs. Both the herb and ſeed were formerly believed to be lithontriptic and powerfully diuretic; and many other virtues were attributed to them, to which the preſent practice pays no regard. The young leaves are by ſome uſed in the ſpring as a wholeſome pot-herb.

UVA PASSA [*Lond.*]

Raiſins of the ſun; the dried grapes of the *vitis Damaſcena.*

UVÆ PASSÆ *Minores.*
Currants; the dried grapes of the *vitis Corinthiaca.*

The principal uſe of theſe is as an agreeable ſweet; they impart a very pleaſant flavour both to aqueous and ſpirituous menſtrua. The ſeeds or ſtones are ſuppoſed to give a diſagreeable reliſh, and hence are generally directed to be taken out. The raiſins of the ſun are an ingredient in the compound decoction of barley, the tincture of ſenna, and the compound tincture of cardamoms.

UVA URSI [*Lond. Ed.*] *Folium.*
Arbutus uva-urſi Lin.
Whortleberry; the leaf.

The uva urſi is a low ſhrub, ſomewhat reſembling the myrtle. It ſeems firſt to have been employed in medicine in Spain and the ſouth of France; it is an indigenous vegetable of theſe countries, but it grows alſo in northern climates, particularly in Sweden, and on the hills of Scotland. The leaves have a bitteriſh aſtringent taſte; and their latter quality is ſo conſiderable, that in certain places, particularly in ſome of the provinces of Ruſſia, they are uſed for tanning leather. A watery infuſion of the leaves immediately ſtrikes a very black colour with chalybeates.

The uva urſi ſeems firſt to have been employed in medicine with a view to its aſtringent power. With this intention, it was uſed under the form of decoction, for reſtraining an immoderate flow of the menſes, againſt other hæmorrhagies, in caſes of diarrhœa and dyſentery, and for the cure of cutaneous eruptions. But it had fallen much into diſuſe till its employment was again revived by Dr de Haen of Vienna. He beſtowed very high encomiums on it, againſt ulcerations of the kidneys, bladder, and urinary paſſages. He repreſents it as capable of curing almoſt every caſe of that kind: and even aſſerts, that in caſes of calculus much benefit is derived from its uſe; patients after the employment of it paſſing their water eaſily and without pain. It has, however, by no means anſwered the expectations, which, on theſe grounds, other practitioners formed of it: But in many affections of the urinary organs, it has proved to be a remedy of ſome uſe; and it has been particularly ſerviceable in alleviating dyſpeptic ſymptoms in nephritic and calculous caſes. It has alſo been ſerviceable in cyſtirrhœa or catarrhus veſicæ; and it has been thought to be ſometimes productive of advantage in diabetes. It is ſometimes uſed in the form of decoction, but moſt frequently in that of powder, from a ſcruple to a drachm for a doſe, repeated twice or thrice a day.

WINTERANUS CORTEX. [*Brun.*]
Winterania aromatica Lin.
Winter's bark

This is the produce of a tree growing about the ſouthern promontory of America. It was firſt diſcovered on the coaſt of Magellan by Captain Winter, in the year 1567: the ſailors then employed the bark as a ſpice, and afterwards found it ſerviceable in the ſcurvy; for which purpoſe it is at preſent ſometimes uſed in diet-drinks. The true winter's bark is not often met with in the ſhops, canella alba being generally ſubſtituted for it, and by many it is reckoned to be the ſame: There is, however, a conſiderable difference between them in appearance, and a greater in quality. The winter's bark is in larger pieces, of a more cinnamon colour than the canella; and taſtes much warmer and more pungent.

ZEDOARIA [*Lond. Ed.*] *Radix.*

Kempferia rotunda Lin.

Zedoary; the root.

Zedoary is the root of a plant growing in the Eaſt Indies. It is brought over in oblong pieces about the thickneſs of the finger, or in roundiſh ones about an inch in diameter. Both ſorts have an agreeable fragrant ſmell, and a warm, bitteriſh, aromatic taſte.

In diſtillation with water, it yields an eſſential oil, poſſeſſing the ſmell and flavour of the zedoary in an eminent degree; the remaining decoction is almoſt a ſimple bitter. Spirit likewiſe brings over ſome ſmall ſhare of its flavour: nevertheleſs the ſpirituous extract is conſiderably more grateful than the zedoary itſelf.

ZIBETHUM [*Brun.*]

Viverra Zibetha Lin.

Civet.

This is a ſoft unctuous ſubſtance, of a white, brown, or blackiſh colour, brought from the Brazils, the coaſt of Guinea, and the Eaſt Indies. It is contained in certain bags, ſituated in the lower part of the belly of an animal of the cat kind.

The chief uſe of this drug is in perfumes; it is rarely, if ever, employed for any medicinal purpoſes.

ZINCUM [*Lond.*] *Lapis calaminaris, Tutia, Vitriolum album,* [*Ed.*] *Zincum vitriolatum.*

Zinc.

This is a ſemimetal, inflammable *per ſe*; ſublimable into flowers; ſoluble in every acid; not miſcible in fuſion with ſulphur; changing copper into a metal, called braſs. Several productions of this metal, though not generally known to be ſuch, are kept in the ſhops: as its rich ore calamine, the white vitriol, the pure white flowers of zinc called *Pompolyx*, and the more impure tutty.

The preparations of zinc are employed principally in external applications as ophthalmics. The flowers levigated into an impalpable powder, form with oily ſubſtances an uſeful ointment, and with roſe and other waters, elegant collyria, for defluxions of thin ſharp humours on the eyes. They are moderately aſtringent; and act, if the levigation has been duly performed, without acrimony or irritation.

Internally, they have been recommended in epilepſy and other ſpaſmodic affections, both alone and with the *cuprum ammoniacum;* and ſome think they prove an uſeful addition to the Peruvian bark in intermittents.

White vitriol is ſometimes given, in doſes of from five grains to half a drachm, as an emetic; it operates quickly, and, if pure, without violence. Externally, it is employed as an ophthalmic, and often made the baſis of collyria, both in extemporaneous preſcription and in diſpenſatories: ſuch as the *aqua zinci vitriolati cum* *camphora* of the London pharmacopœia.

ZINGIBER [*Lond. Ed.*] *Radix.*

Amomum zingiber Lin.

Ginger; the root.

This root is brought from China, and the Eaſt and Weſt Indies. It has a fragrant ſmell, and a hot, biting aromatic taſte. Rectified ſpirit extracts its virtues by infuſion, in much greater perfection than aqueous liquors; the latter elevate its whole flavour in diſtillation, the former little or nothing. Ginger is a very uſeful ſpice in cold flatulent colics, and in laxity and debility of the inteſtines; it does not heat ſo much as thoſe of the pepper kind, but its effects are more durable. It gives name to an officinal ſyrup, to the *Zingiber conditum*, or candied ginger brought from abroad; enters the *Electuarium cardiacum*, and ſome other compoſitions.

GENERAL RULES *for the collection and Preſervation of* SIMPLES.

ROOTS.

ANNUAL roots are to be taken up before they ſhoot out ſtalks or flowers: Biennial ones chiefly in the autumn of the ſame year in which the ſeeds were ſown: The perennial, when the leaves fall off, and therefore generally in the autumn. Being waſhed clean from dirt, and freed from the rotten and decayed fibres, they are to be hung up in a warm, airy place, till ſufficiently dried; and when thoroughly dry they ought to be kept in tin canniſters with cloſe covers, and in a dry room. The thicker roots require to be ſlit longitudinally, or cut tranſverſely into thin ſlices and hung with packthread in feſtoons, ſo that the ſlices do not touch each other. Such roots as loſe their virtues by exſiccation, or are deſired to be preſerved in a freſh ſtate, for the greater conveniency of their uſe in certain forms, are to be kept buried in dry ſand, in a cool cellar.

THERE are two ſeaſons in which the biennial and perennial roots are reckoned the moſt vigorous, the autumn and ſpring; or rather the time when the ſtalks or leaves have fallen off, and that in which the vegetation is juſt to begin again, or ſoon after it has begun; which times are found to differ conſiderably in different plants.

The college of Edinburgh, in the two firſt editions of their pharmacopœias, directed them to be dug in the ſpring, after the leaves are formed; in the third edition, the autumn was preferred. The generality of roots appear, indeed, to be moſt efficacious in the ſpring: but as at this time they are alſo the moſt juicy, and conſequently ſhrivel much in drying, and are rather more difficultly preſerved, it is commonly thought moſt adviſable to take them up in autumn. No rule, however, can be given, that ſhall obtain univerſally: arum root is taken even in the middle of ſummer, without ſuſpicion of its being leſs active than at other ſeaſons; while angelica root is inert during the ſummer, in compariſon of what it is in the autumn, ſpring, or winter.

HERBS and LEAVES.

HERBS are to be gathered when the leaves have come to their full growth, before the flowers unfold: but of ſome plants the flowery tops are preferred. They are to be dried in the ſame manner as roots.

FOR the gathering of leaves, there cannot perhaps be any univerſal rule, any more than for roots; for though moſt herbs appear to be in their greateſt vigour about the time of their flowering, or a little before, there are ſome in which the medicinal parts are more abundant at an earlier period.

Thus mallow and marſhmallow leaves are moſt mucilaginous when young, and by the time of flowering approach more to a woody nature. A difference of the ſame kind is more remarkable in the leaves of certain trees and ſhrubs; the young buds, or rudiments of the leaves, of the black poplar tree, have a ſtrong fragrant ſmell, approaching to that of ſtorax; but by the time that the leaves have come to their full growth their fragrance is exhauſted.

Herbs are directed by moſt of the pharmaceutic writers to be dried in the ſhade; a rule which appears to be very juſt, though it has ſometimes been miſunderſtood. They are not to be excluded from the ſun's *heat*, but from its *light*; by which their colours are liable to be altered or deſtroyed. Slow drying of them in a cool place is far from being of any advantage: both their colours and virtues are preſerved in greateſt perfection, when they are dried haſtily by the heat of the ſun, or of a common fire as great as that which they can bear without being ſcorched, eſpecially the more ſucculent, which are otherwiſe liable to turn black. Odoriferous herbs, dried by fire till they become friable, diſcover indeed, in this acrid ſtate, very little ſmell; not that the odorous matter is diſſipated; but on account of its not being communicated from the perfectly dry ſubject to dry air; for as ſoon as a watery vehicle is ſupplied, whether by infuſing the plant in water, or by expoſing it for a little time to a moiſt air, the odorous parts begin to be extracted by virtue of the aqueous moiſture, and diſcover themſelves in their full force.

Of the uſe of heat in drying herbs, we have an inſtance in the treatment of tea among the Chineſe. According to the accounts of travellers, the leaves, as ſoon as gathered, are brought into an apartment furniſhed with a number of little furnaces, or ſtoves, each of which is covered with a clean ſmooth iron plate; the leaves are ſpread on the plates, and kept rolling with the hands till they begin to curl up about the edges; they are then immediately ſwept off on tables, on which one perſon continues to roll them, while another fans them that they may cool haſtily: this proceſs is repeated two or three times, or oftener, according as the leaves are diſpoſed to unbend on ſtanding.

EXSICCATION of HERBS and FLOWERS.

HERBS and flowers are to be dried by the gentle heat of a ſtove or common fire, and only in that quantity at a time by which the exſiccation may be very ſoon finiſhed. By this means their ſtrength and native colour are beſt preſerved.

The leaves of hemlock, and ſome other herbs replete with a ſubtile volatile matter, are to be powdered immediately after the exſiccation, and preſerved in glaſs-veſſels, well ſhut.

FLOWERS.

FLOWERS are to be gathered when moderately expanded, on a clear dry day, before noon. Red roſes are taken before they open, and the white heels clipped off and thrown away.

THE quick drying, above recommended for the leaves of plants, is more particularly proper for flowers; in moſt of which both the colour and ſmell are more periſhable than in leaves, and more ſubject to be impaired by ſlow exſiccation. Of the flowers which come freſh into the apothecaries hands, the only ones employed dry in the London Pharmacopœia are red roſes; and theſe, in all the compoſitions in which they are uſed in a dry ſtate, are expreſsly ordered to be dried haſtily.

It may here be obſerved, that the virtues of flowers are confined to different parts of the flower in different plants. Saffron is a ſingular production being the end of the ſtyle or piſtil. The active part of chamomile flowers is the yellow diſk, or button in the middle; that of lilies, roſes, clove-july-flowers, violets, and many others, the petala or flower-leaves; while roſemary has little in any of theſe parts, its fragrance reſiding chiefly in the flower cup.

FRUITS and SEEDS.

FRUITS are to be gathered when ripe, unleſs otherwiſe ordered. Seeds ſhould be collected when ripe and beginning to grow dry, before they fall off ſpontaneouſly.

OF the fruits whoſe collection comes under the notice of the apothecary, there are few which are uſed in an unripe ſtate: the principal is the ſloe, whoſe virtue as a mild aſtringent is much diminiſhed by maturation.

The rule for collecting ſeeds is more general than any of the others, all the officinal ſeeds being in their greateſt perfection at the time of their maturity. As ſeeds contain little watery moiſture, they require no other warmth for drying them than that of the temperate air of autumn; ſuch as abound with a groſs expreſſible oil, ſhould never be expoſed to any conſiderable heat; for this would haſten their rancidity. Seeds are beſt preſerved in their natural huſks or coverings, which ſhould be ſeparated only at the time of uſing; the huſk, or cortical part, ſerving to defend the ſeed from being injured by the air.

WOODS and BARKS.

The moſt proper ſeaſon for the felling of woods, or ſhaving off their barks, is generally the winter.

No woods of our own growth are now retained by the London or Edinburgh colleges.

It may be doubted, whether barks are not generally more replete with medicinal matter in ſummer and ſpring than in winter. The barks of many trees are in ſummer ſo much loaded with reſin and gum, as to burſt ſpontaneouſly, and diſcharge this redundant quantity. It is ſaid that the bark of the oak anſwers beſt for the tanners at the time of the riſing of the ſap in ſpring: and as its uſe in tanning depends on the ſame aſtringent quality for which it is uſed in medicine, it ſhould ſeem to be alſo fitteſt for medicinal purpoſes in the ſpring. It may be obſerved likewiſe, that, in this laſt ſeaſon, barks in general are moſt conveniently peeled off.

ANIMAL SUBSTANCES.

ANIMAL ſubſtances are to be choſen in their moſt perfect ſtate, unleſs they be ordered otherwiſe.

Whatever virtues theſe bodies may have, they are ſuppoſed to be beſt when they have attained to their common full growth.

PART III.

Preparations and Compoſitions.

CHAP. I.

PREPARATIONES SIMPLICIORES.

THE MORE SIMPLE PREPARATIONS.

QUORANDUM AQUA NON SOLUBILIUM PRÆPARATIO.

Lond.

The preparation of ſome Subſtances not ſoluble in water.

REDUCE theſe ſubſtances firſt in a mortar to a fine powder; and pouring on a little water, levigate it on a hard and poliſhed, but not calcareous, ſtone, that it may be made as fine as poſſible. Dry this fine powder on blotting paper laid on chalk, and ſet it in a warm, or at leaſt a dry, place, for ſome days.

In this manner are to be prepared,

Amber,
Antimony,
Calamine,
Chalk,
Coral.

Crabs claws, firſt broken into ſmall pieces, muſt be waſhed with boiling water before they be levigated.

Oyſter-ſhells, firſt cleaned from adhering impurities.
Tutty.
Verdigris.

WHERE large quantities of the foregoing powders are to be prepared, it is cuſtomary, inſtead of the ſtone and mullet, to employ hand-mills made for this purpoſe, conſiſting of two ſtones; the uppermoſt of which turns horizontally on the lower, and has an aperture in the middle for ſupplying freſh matter, or for returning that which has already paſſed, till it be reduced to a proper degree of fineneſs.

For the levigation of hard bodies, particular care ſhould be taken, whatever kind of inſtruments be uſed, that they be of ſufficient hardneſs, otherwiſe they will be abraded by the powders. The hæmatites, a hard iron ore, is moſt conveniently levigated between two iron planes; for if the common levigating ſtones be uſed, the preparation, when finiſhed, will contain almoſt as much foreign matter from the inſtrument as the hæmatites.

It has been cuſtomary to moiſten ſeveral powders in levigation, with roſe, balm, and other diſtilled waters: theſe, nevertheleſs, have no advantage above common water, ſince in the ſubſequent exſiccation they muſt neceſſarily exhale, leaving the medicine poſſeſſed of no other virtue than what might be equally expected from it when prepared with pure water.

Some few ſubſtances, indeed, are more advantageouſly levigated with ſpirit of wine than with water. A little ſpirit may be added to animal ſubſtances, if the weather be very hot, and large quantities of them are prepared at once, to prevent their running into putrefaction; an accident which, in thoſe circumſtances, ſometimes happens when they are levigated with water only. Crabs-eyes, which abound with animal gelatinous matter, are particularly liable to this inconvenience.

The caution given above for reducing antimony, calamine, and tutty, to the greateſt ſubtility poſſible, demands particular attention. The tenderneſs of the parts to which the two laſt are uſually applied, requires them to be perfectly free from any admixture of groſs irritating particles. The firſt, when not thoroughly comminuted, might not only, by its ſharp needle-like ſpicula, wound the ſtomach, but likewiſe anſwers little valuable purpoſe as a medicine, proving either an uſeleſs load upon the viſcera, or at beſt paſſing off without any other ſenſible effect than an increaſe of the groſſer evacuations; while, if reduced to a great degree of fineneſs, it turns out a medicine of conſiderable efficacy.

The moſt ſucceſsful method of obtaining theſe powders of the requiſite tenuity, is, to waſh off the finer parts by means of water, and continue levigating the remainder till the whole become fine enough to remain for ſome time ſuſpended in the fluid; this proceſs is received in the Edinburgh pharmacopœia, and there directed in the preparation of the following article.

ANTIMONIUM PRÆPARATUM.

Edinburgh.

Prepared Antimony.

Let the antimony be firſt pounded in an iron mortar, and then levigated on a porphyry with a little water. After, this, put it into a large veſſel, and pour a quantity of water on it. Let the veſſel be repeatedly ſhaken, that the finer part of the powder may be diffuſed through the water; the muddy liquor is then to be poured off, and ſet by till the fine powder ſettles.

The groſs part, which the water would not ſuſpend, is to be further levigated, and treated in the ſame manner.

By this method, powders may be obtained of any required degree of tenuity; and without the leaſt mixture of the groſs parts, which are always found to remain in them after long continued levigation; all the coarſer matter ſettles at firſt, and the finer powder continues ſuſpended in the water, longer and longer, in proportion to the degree of its fineneſs. The ſame proceſs may likewiſe be advantageouſly applied to other hard pulveriſable bodies of the mineral kingdom, or artificial preparations of them; provided they be not ſoluble in, or ſpecifically lighter than water. The animal and abſorbent powders, crabs claws, crabs-eyes, oyſter-ſhells, egg ſhells, chalk, coral, &c. are not well adapted to this treatment; nor indeed do they require it. Theſe ſubſtances are readily ſoluble in acid juices without much comminution: if no acid be contained in the firſt paſſages, they are apt to concrete, with the mucous matter uſually lodged there, into hard indiſſoluble maſſes; the greater degree of fineneſs they are reduced to, the more they are diſpoſed to form ſuch concretions, and become liable to obſtruct the orifices of the ſmall veſſels.

CALAMINARIS LAPIS PRÆPARATUS.
Edin.
Prepared Calamine.

Calamine, previouſly calcined by braſs founders, is to be treated in the ſame manner as antimony.

As calamine is intended for external application, and often to parts very eaſily irritated, too much pains cannot be beſtowed in reducing it to a fine powder.

CRETA PRÆPARATA.
Edin.
Prepared Chalk.

Chalk firſt triturated and then frequently waſhed with water, till it imparts to the water neither taſte nor colour, is to be treated in the ſame manner as antimony.

CANCRORUM LAPILLI PRÆPARATI, VULGO OCULI CANCRORUM.
Edin.
Prepared Crabs Stones.

TUTIA PRÆPARATA.
Edin.
Prepared Tutty.

Theſe are to be prepared like antimony.

TESTÆ OSTREARUM PRÆPARATÆ.
Edin.
Prepared Oyſter-ſhells.

After being well cleaned from adhering impurities, they are to be prepared like antimony.

ADIPIS SUILLÆ, SEVIQUE OVILLI PRÆPARATIO.
Lond.
The preparation of hog's lard and mutton ſuet.

AUXUNGIA PORCINA PRÆPARATA.
Edin.
Prepared hog's lard.

Cut them into pieces, and melt them over a ſlow fire; then ſeparate them from the membranes by ſtraining.

The apothecary will in general find it more for his intereſt to purchaſe hogs lard and mutton ſuet ready prepared than to prepare them for himſelf: for the proceſs requires to be very cautiouſly conducted, to prevent the fat from burning or turning black.

AMMONIACI GUMMI PURIFICATIO.

The purification of gum ammoniacum.
Lond.

If gum ammoniac do not ſeem to be pure, boil it in water till it become ſoft; then ſqueeze it through a canvas bag, by means of a preſs. Let it remain at reſt till the reſinous part ſubſide; then evaporate the water; and toward the end of the evaporation reſtore the reſinous part, mixing it with the gummy.

In the ſame manner are purified aſſafœtida and ſuch like gum-reſins.

You may alſo purify any gum which melts eaſily, ſuch as Galbanum, by putting it in an ox-bladder, and holding it in boiling water till it be ſo ſoft that it can be ſeparated from its impurities by preſſing through a coarſe linen cloth.

In ſtraining all the gums care ſhould be taken that the heat be neither great, nor long continued; otherwiſe a conſiderable portion of their more active volatile matter will be loſt; an inconvenience, which cannot, by any care, be wholly avoided. Hence the purer tears, unſtrained, are in general to be preferred, for internal uſe, to the ſtrained gums.

An additional reaſon for this preference is, that ſome of the gum-reſins, purified in the common way, by ſolution in water, expreſſion, and evaporation, are not ſo eaſily ſoluble in aqueous menſtrua after, as before, ſuch depuration. On theſe accounts this proceſs is entirely omitted by the Edinburgh college; and in every caſe where a gummy reſinous ſubſtance, before it be taken, is to be diſſolved in water, it may be as effectually freed from impurities at the time of ſolution as by this proceſs. And when it is to be employed in a ſolid ſtate, care ſhould be taken that the purer parts alone be ſelected.

CORNU CERVI USTIO.

The burning of hartſhorn.
Lond.

Burn pieces of hartſhorn till they become perfectly white; then reduce them to a very fine powder.

The pieces of horn generally employed in this operation are thoſe left after diſtillation.

In the burning of hartſhorn, a ſtrong fire and the free admiſſion of air are neceſſary. The potter's furnace was formerly directed for the ſake of convenience; but any common furnace or ſtove will do. If the pieces of horn be laid on ſome lighted charcoal ſpread on the bottom of the grate, they will be burnt to whiteneſs, ſtill retaining their original form.

Burnt hartſhorn is not now conſidered as a pure earth, having been found to be a compound of calcareous earth and phoſphoric acid. It is the weakeſt of the animal abſorbents, and is difficultly ſoluble in acids; but whether it be of equal or ſuperior uſe in diarrhœas to more powerful abſorbents, muſt be left to obſervation.

HERBARUM et FLORUM EXSICCATIO.

Lond.

The drying of herbs and flowers.

Let theſe, ſpread out lightly, be dried by a gentle heat.

Edin.

Herbs and flowers muſt be dried by the gentle heat of a ſtove or common fire, in ſuch quantities at a time, that the proceſs may be ſpeedily finiſhed; for by this means their medical powers are beſt preſerved. The teſt of which is the perfect preſervation of their natural colour. The leaves of cicuta, and of other plants containing a volatile matter, muſt be immediately pounded, after being dried, and afterwards kept in a phial with a ground ſtopper.

The directions given by the London college are here leſs explicit, and leſs proper than thoſe of the Edinburgh college: for there can be no doubt of the propriety of drying theſe ſubſtances haſtily, by the aid of artificial heat, rather than by the heat of the ſun. In the application of artificial heat, the only caution requiſite is to avoid burning; and of this a ſufficient teſt is afforded by the preſervation of colour. And the direction given with regard to cicuta may be followed in moſt caſes where flowers and herbs are kept and exhibited in powder.

MELLIS DESPUMATIO.

Lond.

The purifying of honey.

MEL DESPUMATUM.

Edin.

Purified honey.

Melt the honey by the heat of a water bath, and remove the ſcum.

The intention of this proceſs is to purify the honey from wax, or other droſſy matters that adhere to it, or are ſometimes fraudulently mixed with it. When the honey is rendered liquid and thin by the heat, theſe lighter matters riſe freely to the ſurface.

MILLEPEDÆ PRÆPARATIO.

Lond.

The preparation of millepeds.

MILLEPEDÆ PRÆPARATÆ.

Edin.

Prepared millepeds

The millepedes are to be incloſed in a thin canvas cloth, and ſuſpended over hot proof ſpirit in a cloſe veſſel, till they be killed by the ſteam, and rendered friable.

This is a convenient way of rendering millepedes pulveriſable, without endangering any loſs of ſuch virtues as they may poſſeſs.

The directions given by both colleges are preciſely the ſame, and delivered in almoſt the ſame words.

PULPARUM EXTRACTIO.

Edin.

The extraction of pulps.

Boil unripe pulpy fruits, and ripe ones if they be dry, in a ſmall quantity of water until they become ſoft: then preſs out the pulp through a hair ſieve, and afterwards boil it down to the conſiſtence of honey in an earthen veſſel, over a gentle fire; taking care to keep ſtirring the matter continually.

The pulp of caſſia fiſtularis is in like manner to be boiled out from the bruiſed pod, and reduced afterwards to a proper conſiſtence, by evaporating the water.

The pulps of fruits that are both ripe and freſh, are to be preſſed out through the ſieve, without any previous boiling.

In the extraction of pulps, the direction of both colleges ſo nearly agree, that it is unneceſſary to give a ſeparate tranſlation of each. We may only obſerve, that the London college, inſtead of ſoftening the fruits by boiling them in a ſmall quantity of water, direct them to be put in a moiſt place. This direction, though proper in ſome caſes, is not generally the moſt ſuitable.

SCILLÆ EXSICCATIO.
Lond.
The drying of ſquills.

SCILLA EXSICCATA.
Edin
Dried ſquill.

Let the ſquill, cleared from its outer ſkin, be cut tranſverſely into thin ſlices, and dried with a gentle heat. When properly managed, the ſquill is friable, and retains its bitterneſs and acrimony.

By this method the ſquill dries much ſooner than when its ſeveral coats are only ſeparated, as has been uſually directed; the internal part is here laid bare, but, in each of the entire coats, it is covered with a thin ſkin, which impedes the exhalation of the moiſture. The root loſes in this proceſs four fifths of its original weight; the parts which exhale appear to be merely watery: ſix grains of the dry root being equivalent to half a drachm of the freſh: a circumſtance to be particularly regarded in the exhibition of this medicine. In the preceding editions of our pharmacopœias, a particular caution was given, not to uſe an iron knife for cutting ſquills, but one of wood, ivory, or bone: the reaſon of this caution is ſaid to be, not ſo much that the ſquill would receive any ill qualities from the iron; as that its acrid juice, adhering to the knife, might render a wound received by it extremely painful, or even dangerous: but as no danger is to be apprehended from ſuch an accident, the direction appears unneceſſary. Dried ſquills furniſh us with a medicine, ſometimes advantageouſly employed as an emetic, often as an expectorant, but ſtill more frequently as a powerful diuretic.

SPONGIÆ USTIO.
Lond.
The burning of ſponge.

Cut the ſponge in pieces, and bruiſe it, and when ſeparated from its gritty matter, burn it in a cloſe iron veſſel, until it becomes black and friable; afterwards rub it to a very fine powder.

SPONGIA USTA.

Edin.

Burnt ſponge.

Put the ſponge, cut into ſmall pieces, and well freed from adhering earthy matters, into a cloſe earthen veſſel. Place it on the fire, and let it be ſtirred frequently till it become black and friable; then reduce it to a powder in a glaſs or marble mortar.

This medicine has been in uſe for a conſiderable time, and employed againſt ſcrophulous diſorders and cutaneous foulneſſes, in doſes of a ſcruple and upwards. Its virtues ſeem to depend on a volatile ſalt juſt formed, and combined with its own oil. If the ſponge be diſtilled with a ſtrong heat, it yields a large proportion of that ſalt in its proper form. The ſalt is in this preparation ſo far extricated, that if the burnt ſponge be ground in a braſs mortar, it corrodes the metal, ſo as to contract a diſagreeable taint, and ſometimes an emetic quality.

Bees, earthworms, and other animal ſubſtances, have by ſome been prepared in the ſame manner, and recommended in different diſeaſes: but as theſe ſubſtances fall much ſhort of ſponge in the quantity of volatile ſalt producible from them by fire, they are probably inferior alſo in medicinal efficacy. Of all the animal matters that have been tried, raw ſilk is the only one which exceeds, or equals ſponge, in the produce of ſalt.

A good deal of addreſs is requiſite for managing this proceſs in perfection. The ſponge ſhould be cut ſmall, and beaten for ſome time in a mortar, that all the ſtony matters may be got out, which compared with the weight of the ſponge when prepared, will ſometimes amount to a conſiderable quantity. The burning ſhould be diſcontinued as ſoon as the matter is become thoroughly black. If the quantity put into the veſſel at once be large, the outſide will be ſufficiently burnt before the inſide be affected: and the volatile ſalt of the former will in part eſcape, before that of the latter is begun to be formed. The beſt method of avoiding this inconvenience ſeems to be, to keep the ſponge continually ſtirring, in ſuch a machine as is uſed for the roaſting of coffee.

From this circumſtance the iron veſſel directed by the London college is preferable to the earthen one directed by that of Edinburgh. But the pounding in a glaſs or marble mortar, is a neceſſary caution which the London college have omitted.

STYRACIS PURIFICATIO.

Lond.

The purification of ſtorax.

Diſſolve the ſtorax in rectified ſpirit of wine, and ſtrain the ſolution: afterwards reduce it to a proper thickneſs with a gentle heat.

Storax was formerly directed to be purified by means of water; hence it was ſtyled *ſtyracis colatio*: but the method now adopted is much preferable, for the active parts of the ſtorax totally diſſolve in ſpirit of wine, the impurities alone being left. And as theſe active parts do not riſe in diſtillation, the ſpirit may be again recovered by diſtillation.

MU-

MUCILAGINUM EXTRACTIO.

Gen.

The extraction of mucilages.

Boil the gums or mucilaginous ſeeds in a ſufficient quantity of water, till it becomes viſcid, nerrly reſembling the white of an egg; and then ſtrain it by preſſure through a linen cloth.

Although this proceſs be not given in either of our pharmacopœias, yet it might have been adopted with advantage: It is certainly a very good method for obtaining a pure mucilage from ſuch vegetables as contain any.

CHAP. II.

CONSERVÆ.

CONSERVES.

CONSERVES are compoſitions of ſugar and recent vegetable matters beaten together into an uniform maſs.

This management is introduced for preſerving certain ſimples undried in an agreeable form, with as little alteration as poſſible of their native virtues: and to ſome ſubjects it is very advantageouſly applied. Vegetables, whoſe virtues are loſt or deſtroyed by drying, may in this form be long kept uninjured; for by carefully ſecuring the mouth of the containing veſſel, the alteration, as well as diſſipation, of their active principles, is generally prevented; and the ſugar preſerves them from the corruption which juicy vegetables would otherwiſe undergo.

There are, however, ſeveral vegetables whoſe virtues are impaired by this treatment. Mucilaginous ſubſtances, by long lying with ſugar, become leſs glutinous; and aſtringents become ſenſibly ſofter on the palate. Many of the fragrant flowers are of ſo tender and delicate a texture, as almoſt entirely to loſe their peculiar qualities on being beaten or bruiſed.

In general, it is obvious, that in this form, on account of the large admixture of ſugar, only ſubſtances of conſiderable activity can be taken to advantage as medicines; and, indeed, conſerves are at preſent conſidered chiefly as auxiliaries to medicines of greater efficacy, or as intermedia for joining them together. They are very convenient for reducing into boluſes or pills the more ponderous powders, as calomel, the calces of iron and other mineral preparations; which, will not cohere with liquid, or leſs conſiſtent matters, as ſyrups.

The ſhops were formerly encumbered with many conſerves altogether inſignificant; the few now retained have in general either an agreeable flavour to recommend them, or are capable of anſwering ſome uſeful purpoſes as medicines. Their common doſe is the bulk of a nutmeg, or as much as can be taken up at once or twice upon the point of a knife. There is in general no great danger of exceeding in this particular.

CONSERVÆ.
ABSINTHII MARITIMI,
Of ſea worm wood;
CORTICIS EXTERIORIS AURANTII HISPALENSIS;
Of the outer rind of the Seville orange.

LUJULÆ.
Of wood ſorrel.
ROSÆ RUBRÆ.
Of the red roſe ;
Lond.

Pluck the leaves from the ſtalks and the unblown petals from the cups, taking off the heels. Raſp off the outer rind of the oranges by a grater ; then beat each of them with a wooden peſtle in a marble mortar, firſt by themſelves, and afterwards with three times their weight of double refined ſugar, until they be mixed.

CONSERVÆ.
MENTHÆ SATIVÆ FOLIORUM RECENTIUM,
Of the freſh leaves of mint ;
ROSÆ RUBRÆ PETALORUM NONDUM EXPLICATORUM ;
Of red roſe buds.
AURANTIORUM HISPALENSIUM CORTICIS EXTERIORIS RECENTIS RADULA ABRASI.
Of the outer rind of Seville oranges raſped off by a grater.
CYNOSBATI FRUCTUS MATURI PULPÆ *a ſeminibus eorumque pube ſollicite purgatæ.*
Of the pulp of ripe hips freed from the ſeeds and down adhering to them.
Edin.

Beat each of theſe to a pulp, gradually adding during the beating three times their weight of double refined ſugar.

The ſugar ſhould be pounded by itſelf, and paſſed through a ſieve, before it be mixed with the vegetable maſs, for without this it cannot be properly incorporated. Roſe buds, and ſome other vegetables, are prepared for mixing with ſugar by a ſmall wooden mill contrived for that purpoſe.

In the ſame manner conſerves may be prepared from many other vegetables. But beſides the conſerves for which general directions are given, there are others, for which our pharmacopœias have thought it neceſſary to give particular directions. But before taking notice of thoſe, it is neceſſary to mention the medical properties of the conſerves above enumerated.

CONSERVA LUJULÆ.

Lond.

Conſerve of wood-ſorrel.

THIS is a very elegant and grateful conſerve ; in taſte it is lightly acidulous, with a peculiar flavour, like that of green tea. It is taken occaſionally for quenching thirſt, and cooling the mouth and fauces, in diſtempers where the heat of the body is much increaſed.

CONSERVA ABSINTHII MARITIMI.

Lond.

Conſerve of ſea wormwood.

THE conſerve of wormwood has been celebrated in dropſies : Matthiolus relates, that ſeveral perſons were cured by it of that diſtemper without the aſſiſtance of any other medicine. Where the diſorder indeed proceeds from a ſimple laxity or flaccidity of the ſolids, the continued uſe of this medicine may be of ſome ſervice ; as it appears to be an elegant mild corroborant.

It is directed to be given in the doſe of half an ounce about three hours before meals.

CONSERVA ROSÆ RUBRÆ.

Lond. Edinb.

Conſerve of red roſes.

This is a very agreeable and uſeful conſerve. A drachm or two diſſolved in warm milk, is frequently given as a ſlight reſtringent, in weakneſs of the ſtomach, and likewiſe in coughs and phthiſical complaints. In the German ephemerides, examples are related of very dangerous phthiſis cured by the continued uſe of this medicine: In one of theſe caſes, twenty pounds of the conſerve were taken in the ſpace of a month; and in another, upwards of thirty. Riverius mentions ſeveral other inſtances of this kind. There is, however, much room for fallacy in ſuch obſervations; as phthiſis has not at all times been accurately diſtinguiſhed from obſtinate catarrhs, and ſome other affections: the antiſeptic property of the ſugar may perhaps have ſome ſhare in the effect.

CONSERVA AURANTIORUM.

Lond. Edinb.

Conſerve of Seville orange.

This conſerve is a very elegant one, containing all the virtues of the peel in a form ſufficiently agreeable, both with regard to the doſe and the conveniency of taking. It is a pleaſant warm ſtomachic; and with this intention is frequently uſed.

CONSERVA MENTHÆ.

Edinb.

Conſerve of mint.

The conſerve of mint retains the taſte and virtues of the herb. It is given in weakneſſes of the ſtomach and retchings to vomit: and frequently does ſervice in ſome caſes of this kind, where the warmer and more active preparations of mint would be leſs proper.

CONSERVA ARI.

Lond.

Conſerve of arum.

Take
- The freſh root of arum bruiſed, half a pound;
- Double refined ſugar, a pound and a half;

Beat them together in a mortar.

The root of arum, in its recent ſtate, is a ſubſtance of great activity; but this activity is almoſt entirely loſt on drying. Hence the compound powder which had formerly a place in our pharmacopœias is now rejected. And as neither water nor ſpirit extract its activity, this conſerve is the beſt form in which it can be preſerved in our ſhops. It may be given to adults in doſes of a drachm.

CONSERVA CYNOSBATI.

Lond.

Conſerve of hips.

Take of
- Pulp of ripe hips, one pound;
- Double refined ſugar powdered, twenty ounces.

Mix them into a conſerve.

The conſerve of hips is of ſome

eſteem as a ſoft cooling reſtringent; three or four drachms or more are given at a time, in bilious fluxes, ſharpneſs of urine, and hot indiſpoſitions of the ſtomach: A good deal of care is requiſite on the part of the apothecary in making this conſerve; the pulp is apt to carry with it ſome of the prickly fibres, with which the inſide of the fruit is lined: if theſe be retained in the conſerve, they will irritate the ſtomach ſo as to occaſion vomiting.

CONSERVA PRUNI SYLVESTRIS.

Lond. Edinb.

Conſerve of ſloes.

Put the ſloes in water upon the fire that they may ſoften, taking care that they be not broken; then, the ſloes being taken out of the water, preſs out the pulp, and mix it with three times its weight of double-refined ſugar into a conſerve.

This preparation is a gentle aſtringent, and may be given as ſuch in the doſe of two or three drachms. The degree of its aſtringency will vary according to the maturity of the ſloes, and length of time for which the conſerve has been kept.

CONSERVA SCILLÆ.

Lond.

Conſerve of ſquills.

Take of
- Freſh ſquills, one ounce;
- Double-refined ſugar, five ounces.

Beat them together in a mortar into a conſerve.

This conſerve is directed to be prepared in a ſmall quantity, to guard againſt its varying in ſtrength. It may be given, to adults, in doſes of from half a drachm to two ſcruples, eſpecially when freſh.

The conſerve of ſquills is a more uncertain and leſs agreeable mode of exhibiting this article, than the powder of the dried root made into pills, or a bolus with any other conſerve.

CONSERVA FOLIORUM CEREFOLII.

Suec.

Conſerve of chervil.

Take of
- Freſh leaves of chervil,
- Double-refined ſugar, each equal parts.

Beat them together into a conſerve.

Chervil has by ſome been extolled as an uſeful diuretic; and this is perhaps one of the moſt pleaſant forms under which it can be exhibited.

CONSERVA MILLEPEDARUM.

Brun.

Conſerve of Millepeds.

Take of
- Live millepeds, one pound;
- Double-refined ſugar, two pounds and an half.

Beat them together into a conſerve.

If the millepeds poſſeſs thoſe virtues which ſome have alleged, this is one of the beſt forms in which they can be exhibited; and as they are frequently preſcribed for children, it may be eaſily taken, when other forms cannot be introduced.

CONSERVA ROSARUM VITRIOLATA.

Brun.

Vitriolated conſerve of roſes.

To each pound of the conſerve of roſes add two drachms of the diluted vitriolic acid.

THIS may be in ſome caſes an uſeful means of ſomewhat increaſing the aſtringency of the conſerve of roſes: But for theſe purpoſes for which the vitriolic acid is in general employed, the quantity that can thus be introduced is too inconſiderable to be of much ſervice.

CHAP.

CHAP. III.

SUCCI.

JUICES.

JUICES are obtained from the ſucculent parts of plants, by including them, after being properly cut, bruiſed, &c. in a hair bag, and preſſing them, between wooden cheeks, in the common ſcrew-preſs, as long as any liquor exudes.

The harder fruits require to be previouſly well beaten or ground: but herbs are to be only moderately bruiſed, for otherwiſe a large quantity of the herbaceous matter will be forced out along with the juice. Hempen or woollen bags are apt to communicate a diſagreeable flavour; their threads likewiſe ſwell by moiſture, ſo as to prevent in a great meaſure the free percolation of the juice.

The fluids thus extracted from ſucculent fruits, both of the acid and ſweet kind; from moſt of the acrid herbs, as ſcurvy-graſs and water-creſſes; from the acid herbs, as ſorrel and wood ſorrel; from aperient lacteſcent plants, as dandelion and hawkweed; and from ſundry other vegetables, contain great part of the peculiar taſte and virtues of the reſpective ſubjects. The juices, on the other hand, extracted from moſt of the aromatic herbs, as thoſe of mint and the fragrant Turkey balm, commonly called *balm of Gilead*, have ſcarcely any thing of the flavour of the plants, and ſeem to differ little from decoctions of them made in water boiled till the volatile odorous parts have been diſſipated. Many of the odoriferous flowers, as the lily, violet, hyacynth, not only impart nothing of their fragrance to their juice, but have it totally deſtroyed by the previous bruiſing. From want of ſufficient attention to theſe particulars, practitioners have been frequently deceived in the effects of preparations of this claſs: juice of mint has been often preſcribed as a ſtomachic, though it wants thoſe qualities by which mint itſelf and its other preparations operate.

The juices, thus forcibly preſſed out from plants, differ from thoſe which flow ſpontaneouſly, or from inciſions: theſe laſt conſiſting chiefly of ſuch fluids as are not diffuſed through the whole ſubſtance of the vegetable ſubject, but elaborated in diſtinct veſſels, or ſecreted into particular receptacles. From poppy heads, ſlightly wounded, there iſſues a thick milky liquor, which dries by a moderate warmth into opium; whilſt the juice obtained from them by preſſure is of a dark green colour, and far weaker in virtue.

Juices newly expreſſed are generally thick, viſcid, and very impure: by colature, a quantity of groſs matter is ſeparated, the juice becomes thinner, limpid, and better fitted for medicinal purpoſes, though as yet not entirely pure; on ſtanding, it becomes again turbid and is apt to run into a fermentative or putrefactive ſtate. Clarification with whites of eggs renders the juices more perfectly fine; but there are few that will bear this treatment without a manifeſt injury to their flavour, taſte, and virtue.

The moſt effectual method of purifying and preſerving theſe liquors, is to let the ſtrained juices ſtand in a cool place till they have depoſited their groſſer feces, and then gently paſs them ſeveral times through a fine ſtrainer till perfectly clear; when about a fortieth part of their weight of good ſpirit of wine may be added, and the whole ſuffered to ſtand as before: a freſh ſediment will now be depoſited, from which the liquor is to be poured off, ſtrained again, and put into ſmall bottles which have been waſhed with ſpirit and dried. A little oil is to be poured on the ſurface, ſo as very nearly to fill the bottles, and the mouths cloſed with leather, paper, or ſtopped with cotton, as the flaſks are in which florence oil is brought to us: this ſerves to keep out duſt, and ſuffers the air, which in proceſs of times ariſes from all vegetable liquors, to eſcape; which air would otherwiſe endanger the burſting of the bottles; or being imbibed afreſh, render their contents vapid and foul. The bottles are to be kept on the bottom of a good cellar or vault, placed up to the necks in ſand. By this method ſome juices may be preſerved for a year or two, and others for a much longer time.

It has already been obſerved, that there are great differences in juices, in regard to their being accompanied in the expreſſion with the virtues of the ſubjects. There are equal differences in regard to their preſerving thoſe virtues, and this independently of the volatility of the active matter, or its diſpoſition to exhale. Even the volatile virtue of ſcurvy graſs may by the above method, be preſerved almoſt entire in its juice for a conſiderable time; while the active parts of the juice of the wild cucumber quickly ſeparate, and ſettle to the bottom, leaving the fluid part inert. Juices of arum root, iris root, bryony root, and ſundry other vegetables, throw down in like manner their medicinal parts to the bottom

SUCCUS COCHLEARIÆ COMPOSITUS.

Lond. Edin.

Compound juice of ſcurvy-graſs.

Take of
Juice of Brook lime,
Water creſſes, of each one pint;
Seville oranges, twenty ounces by meaſure;
Garden ſcurvy-graſs, two pints;
Mix them, and, after the feces have ſubſided, pour off the liquor, or ſtrain it.

Edinb.

Take of
Juice of Scurvy graſs,
Water creſſes, preſſed from freſh gathered herbs,
Juice

Juice of Seville oranges, of each two pounds;

Spirit of nutmegs, half a pound.

Mix them, and let them ſtand till the feces have ſubſided, then pour off the clear liquor.

In this formula the Edinburgh college have rejected the brooklime and the ſugar of their former editions. The ſugar was certainly a very improper addition; for though it may preſerve dry vegetable matters, yet when added to juices largely impregnated with watery and mucilaginous matter, it would no doubt furniſh that very principle moſt favourable to the production of the vinous fermentation. For the compound horſeradiſh water they have ſubſtituted the ſpirit of nutmegs: Beſides that this water has the ſame property of preſerving the juices from fermentation; it is alſo much more agreeable to the palate, and will make the juices ſit eaſier on the ſtomach.

The London college have retained nearly their former formula, giving it only a more proper name.

Both theſe compoſitions are of conſiderable uſe in ſcorbutic caſes. The orange juice is an excellent aſſiſtant to the ſcurvy-graſs, and other acrid antiſcorbutics; which, when thus mixed, have been found from experience to produce much better effects than when employed by themſelves. Theſe juices may be taken in doſes of from an ounce or two to a quarter of a pint, twice or thrice a day: they generally increaſe the urinary ſecretion, and ſometimes induce a laxative habit. Preſerved with the cautions above-mentioned, they will keep good for a conſiderable time; though whatever care be taken, they are found to anſwer better when freſh: and from the difficulty of preſerving them, they have of late been very much laid aſide, eſpecially ſince we have been provided with more convenient and uſeful remedies.

INSPISSATED JUICES.

When vegetable juices, or watery or ſpirituous decoctions or infuſions, are expoſed to a continued heat, the fluid gradually evaporating, carries off with it ſuch volatile matters as it was impregnated with, and leaves the more fixed united together into one maſs. The maſs which remains from the evaporation of the expreſſed juice of a plant is called *inſpiſſated juice*; from watery decoctions or infuſions, an *extract*; from ſpirituous tinctures, a *reſin* or *eſſential extract*. The term *extract* is frequently uſed alſo as a general appellation of all the three kinds. Inſpiſſated juices and watery decoctions, particularly the former, when evaporated no further than to the conſiſtence of oil or honey, are called *robs*; and ſpirituous tinctures, reduced to a like conſiſtence, are called *balſams*.

What relates to the expreſſion of juices, has already been delivered, with the moſt effectual means of preſerving them in their liquid ſtate, and a general account of what ſubſtances do or do not give out their virtues with their juices. In the inſpiſſation of juices there is farther to be conſidered the volatility or fixity of their medicinal parts: if a plant loſes its virtue, or part of its virtue, on being dried, it is obvious that the juice muſt loſe as much on being inſpiſſated to dryneſs, how gentle ſoever the heat be with which the inſpiſſation is performed. It is likewiſe to be obſerved, that the medicinal parts of ſome juices are kept in a ſtate of perfect ſolution by the watery fluid, ſo as to be completely retained by it after the liquor has been made fine by ſettling, ſtraining, or other means; while the medicinal parts of others, not diſſoluble by watery menſtrua, are only diffuſed through the liquor in the ſame manner as the feculencies are, and ſeparate along with theſe on ſtanding.

SUCCUS BACCÆ SAMBUCI SPISSATUS.

Lond.

Inſpiſſated juice of the elder berry.

Take of

Expreſſed and depurated juice of elder-berries, two pints.

Inſpiſſate it in a water bath ſaturated with ſea-ſalt.

SUCCUS SPISSATUS BACCARUM SAMBUCI, vulgo ROB SAMBUCI.

Edinb.

Inſpiſſated juice of elder-berries, commonly called *Elder Rob.*

Take of

Juice of ripe elder-berries, five pounds;

Pureſt ſugar, one pound.

Evaporate with a gentle heat to the conſiſtence of pretty thick honey.

This preparation, made with or without ſugar, keeps well, and proves a medicine of conſiderable importance as an aperient, generally promoting the natural excretions by ſtool, urine, or ſweat. The doſe is from a drachm or two to an ounce or more. A ſpoonful, diluted with water, is uſually taken in common colds at bed time.

SUCCUS SPISSATUS ACONITI.

Edinb.

Inſpiſſated juice of wolfsbane.

Bruiſe the freſh leaves of aconitum; and including them in a hempen bag, ſqueeze out their juice in a preſs: let the juice be evaporated in flat veſſels in a vapour bath, to the conſiſtence of pretty thick honey: An empyreuma is to be avoided by conſtantly ſtirring the mixture towards the end of the proceſs.

After the matter has become cold, let it be put up in glazed earthen veſſels, and moiſtened with rectified ſpirit of wine.

In the ſame manner are prepared inſpiſſated juices of

Belladonna, or deadly nightſhade.

Hyoſcyamus, or henbane,

and

Lactuca viroſa, or wild lettuce.

In theſe inſpiſſated juices, the active parts of the plant are obtained in a concentrated ſtate, and in a condition which admits of preparation for a conſiderable length of time. They furniſh therefore a convenient form for exhibiting theſe articles which, in the practice of medicine, are more frequently uſed in the ſtate of inſpiſſated juice than any other. This is particularly the caſe with the hyoſcyamus, which may often be advantageouſly employed when opium is indicated, but diſagrees with the patient. But aconite and belladonna may in general, with greater advantage, be exhibited under the form of powder made from the dried leaves.

SUCCUS SPISSATUS CICUTÆ.
Edin.
Inſpiſſated juice of hemlock.

Having expreſſed the juice of the leaves and ſtalks of hemlock when flowering, in the ſame manner as directed for that of the aconitum, evaporate it to the conſiſtence of pretty thin honey; when it is cooled, add of the powder of the dried leaves of the plant as much as is ſufficient to make it into a maſs fit for forming pills. Care, however, is to be taken, that the evaporation proceed only to ſuch length, that as much of the powder can be mixed with the inſpiſſated juice as ſhall make up about a fifth part of the whole maſs.

A preparation ſimilar to this was publiſhed at Vienna by Dr Stoerk, who recommends it as an efficacious reſolvent in many obſtinate diſorders, where the common remedies avail nothing. He obſerves, that ſmall doſes ſhould always be begun with, as two grains made into a pill, twice a day; and that by gradually increaſing the doſe, it may be given to two, three, or even four drachms a day, and continued in ſuch quantities for ſeveral weeks: that it may be uſed in ſafety in infancy, old age, and pregnancy: that it neither accelerates nor diſturbs the circulation: neither heats, nor cools; nor affects the animal functions; that it increaſes the ſecretions, and renders the mouth moiſt; ſeldom purges; very rarely vomits; ſometimes augments perſpiration; often produces a copious diſcharge of viſcid urine; but in many patients does not increaſe any of the ſenſible evacuations; that it removes obſtructions and their conſequences; relieves rheumatic pains, though of long continuance; diſcuſſes ſcirrhous tumours, both internal and external; and cures dropſies and conſumptions proceeding from ſcirrhoſities; that it often diſſolves cataracts, or ſtops their progreſs, and has ſometimes removed the gutta ſerena: that inveterate cutaneous eruptions, ſcald heads, malignant ulcers, cancers, the malignant fluor albus and gonorrhœa of long ſtanding, obſtinate remains of the venereal diſeaſe, and caries of the bones, generally yield to it: that for the moſt part it is neceſſary to continue this medicine for a conſiderable time before the cure be effected, or much benefit perceived from it: that in ſome caſes it failed of giving any relief; that he met with ſome perſons who could not bear its effects: and that conſequently there muſt be ſome latent difference in the habit, the diagnoſtic ſigns of which are at preſent unknown: that though it is by no means infallible any more than other medicines, yet the great number of deplorable caſes which have been happily cured by it, is ſufficient to recommend it to farther trials. The efficacy of this medicine is confirmed by many eminent practitioners abroad; though trials hitherto made of it in this country have not been attended with much ſucceſs. Somewhat, perhaps, may depend on the time of the plant's being gathered, and the manner of the preparation of the extract. Dr Stoerk himſelf takes notice of ſome miſtakes committed in this reſpect: ſome have left the herb in a heap for ſeveral days, whence part of it withered, part rotted, and the juice became thick and mucilaginous;

nious; others have taken a very large quantity of the juice and boiled it down in copper veſſels with a great heat; by which means a ſtrong fetor was diffuſed to a conſiderable diſtance, and the moſt efficacious parts diſſipated: others, with officious care, have clarified the juice, and thus obtained a black tenacious extract, retaining but a ſmall degree of the ſpecific ſmell of the plant. The extract, duly prepared, according to the above preſcription, is of a greeniſh brown colour, and a very diſagreeable ſmell, like that of mice. But though there be reaſon to believe that much of the extract uſed here had been ill prepared, we can by no means admit that its general inefficacy was owing to this cauſe; for though there are not many inſtances of its diſcovering any valuable medicinal powers, there are ſeveral of its having activity enough, even in ſmall doſes, to produce alarming ſymptoms.

Modern practice however, ſeems to hold a middle place; being neither influenced by the extravagant encomiums of Dr Stoerk, nor frightened by the wary ſuſpicions of Dr Lewis. The inſpiſſated juice of the hemlock is accordingly given with freedom in a great variety of complaints, without our experiencing the wonderful effects aſcribed to it by the former, or the baneful conſequences dreaded by the latter. Like other preparations of this valuable herb, it is no doubt a very uſeful addition to our pharmacopœia; nor does its uſe ſeem to be more hazardous than that of opium and ſome other narcotics.

SUCCUS SPISSATUS RIBIS NIGRI.

Lond.

Inſpiſſated juice of black-currants.

SUCCUS SPISSATUS LIMONIS.

Lond.

Inſpiſſated juice of lemons.

SUCCUS SPISSATUS CICUTÆ.

Lond.

Inſpiſſated juice of hemlock.

These three are directed to be prepared in the ſame manner as the elder-berry juice.

CHAP. IV.

EXTRACTA ET *RESINÆ.*

EXTRACTS AND RESINS.

Obſervations on Extracts with Water.

THESE extracts are prepared by boiling the ſubjects in water, and evaporating the ſtrained decoction to a thick conſiſtence.

This proceſs affords us ſome of the more active parts of the plants, free from the uſeleſs indiſſoluble earthy matter, which makes the largeſt ſhare of their bulk. There is a great difference in vegetable ſubſtances, with regard to their fitneſs for this operation; ſome yielding to water all their virtues, and others ſcarce any. Thoſe parts in which the ſweet, glutinous, emollient, cooling, bitter, auſtere, aſtringent virtues reſide, are for the moſt part totally extracted by the boiling water, and remain almoſt entire on evaporating it: while thoſe which contain the peculiar odour, flavour, and aromatic quality, are either not extracted at all, or exhale along with the menſtruum. Thus gentian root, which is almoſt ſimply bitter, yields an extract poſſeſſing in a ſmall volume the whole taſte and virtues of the root.—Wormwood, which has a degree of warmth and ſtrong flavour joined to the bitter, loſes the two firſt in the evaporation, and gives an extract not greatly different from the foregoing: the aromatic quality of cinnamon is diſſipated by this treatment, its aſtringency remaining; while an extract made from the flowers of lavender and roſemary, diſcovers nothing either of the taſte, ſmell, or virtues of the flowers.

General Rules for making Extracts with water.

1. It is indifferent, with regard to the medicine, whether the ſubject be uſed freſh or dry; ſince nothing that can be preſerved in this proceſs will be loſt by drying. With regard to the facility of extraction, there is a very conſiderable difference; vegetables in general giving out their virtues

more readily when moderately dried than when freſh.

2. Very compact dry ſubſtances ſhould be reduced into exceeding ſmall parts, previous to the affuſion of the menſtruum.

3. The quantity of water ought to be no greater than is neceſſary for extracting the virtues of the ſubject. A difference herein will ſometimes occaſion a variation in the quality of the product; the larger the quantity of liquor, the longer time will be requiſite for evaporating it, and conſequently the more volatile parts of the ſubject will be the more diſpoſed to be diſſipated. A long-continued heat likewiſe makes a conſiderable alteration in the matter which is not volatile. Sweet ſubſtances, by long boiling with water, become nauſeous; and the draſtic purgatives loſe their virulence, though without any remarkable ſeparation of their parts.

4. The decoctions are to be depurated by colature; and afterwards ſuffered to ſtand for a day or two, when a conſiderable quantity of ſediment is uſually found at the bottom. If the liquor poured off clear be boiled down a little, and afterwards ſuffered to cool again, it will depoſite a freſh ſediment, from which it may be decanted before you proceed to finiſh the evaporation. The decoctions of very reſinous ſubſtances do not require this treatment, and are rather injured by it; the reſin ſubſiding along with the inactive dregs.

5. The evaporation is moſt conveniently performed in broad ſhallow veſſels; the larger the ſurface of the liquor, the ſooner will the aqueous parts exhale: This effect may likewiſe be promoted by agitation.

6. When the matter begins to grow thick, great care is neceſſary to prevent its burning. This accident (almoſt unavoidable if the quantity be large, and the fire applied as uſual under the evaporating pan) may be effectually ſecured againſt, by carrying on the inſpiſſation after the common manner, no farther than to the conſiſtence of a ſyrup, when the matter is to be poured into ſhallow tin or earthen pans, and placed in an oven, with its door open, moderately heated; which acting uniformly on every part of the liquid, will ſoon reduce it to any degree of conſiſtence required. This may likewiſe be more ſecurely done, by ſetting the evaporating veſſel in, or ſuſpending it over, boiling water; but the evaporation is in this way very tedious.

Obſervations on Extracts with Rectified Spirit.

Rectified ſpirit of wine diſſolves the eſſential oils and reſins of vegetables, and does not readily carry off the oil in its exhalation; the heat ſufficient to exhale pure ſpirit being much leſs than that in which the eſſential oils diſtil. Hence a reſinous or ſpirituous extract of wormwood, contrary to that made with water, contains the warmth and flavour, as well as bitterneſs of the herb; one made from cinnamon poſſeſſes its aromatic virtue, as well as its aſtringency; and one from lavender and roſemary flowers, retains great part of their flavour and virtues ; the volatile parts, which are carried off by water in its evaporation being left behind by the ſpirit.

The ſpirit employed for this purpoſe ſhould be perfectly free from any ill flavour, which would be communicated in part to the preparation ; and from any admixture of phlegm or water, which would not only vary its diſſolving power, but likewiſe, evaporating towards the end of the inſpiſſation, would promote the diſſipation of the volatile parts of the ſubject. Hence, alſo, the ſubject itſelf ought always to be dry : thoſe ſubſtances which loſe their virtue by drying, loſe it equally on being ſubmitted to this treatment with the pureſt ſpirit.

The inſpiſſation ſhould be performed from the beginning in the gentle heat of a water bath. We need not ſuffer the ſpirit to evaporate in the air : greateſt part of it may be recovered by collecting the vapour in common diſtilling veſſels. If the diſtilled ſpirit be found to have brought over any flavour from the ſubject, it may be advantageouſly reſerved for the ſame purpoſes again.

It is obſervable, that though rectified ſpirit be the proper menſtruum of the pure volatile oils, and of the groſſer reſinous matter of vegetables ; and water of the mucilaginous and ſaline : yet theſe principles are, in almoſt all plants, ſo intimately combined together, that whichever of theſe liquors is applied at firſt, will take up a portion of what is directly ſoluble only in the other. Hence ſundry vegetables, extremely reſinous, and whoſe virtues conſiſt chiefly in their reſin, afford nevertheleſs very uſeful extracts with water, though not equal to thoſe which may be obtained by a prudent application of ſpirit. Hence alſo, the extracts made from moſt vegetables by pure ſpirit, are not mere reſins ; a part of the gummy matter, if the ſubject contained any ſuch, is taken up along with the reſin ; an admixture of great advantage to it in a medicinal view The ſpirituous extracts of ſeveral vegetable ſubſtances, as mint leaves, rhubarb, ſaffron, and others, diſſolve in water as well as in ſpirit.

Pure reſins are prepared, by adding to ſpirituous tinctures of very reſinous vegetables, a quantity of water. The reſin, incapable of remaining diſſolved in the watery liquor, ſeparates and falls to the bottom ; leaving in the menſtruum ſuch other principles of the plant as the ſpirit might have extracted at firſt along with it.

Obſervations on Extracts with Spirit and Water.

SUNDRY vegetables, particularly thoſe of a reſinous nature, are treated, to better advantage, with a mixture of water and ſpirit, than with either of them ſingly. The virtues of reſinous woods, barks, and roots, may indeed be in great part extracted by long boiling in freſh portions of water ; but at the ſame time they ſuffer a conſiderable injury from the continued heat neceſſary for the extraction, and for the ſubſequent evaporation of ſo large a quantity of the fluid Rectified ſpirit of wine is not liable to this inconvenience; but the extracts obtained by it from the ſubſtances here intended, being almoſt purely reſinous, are leſs adapted to general uſe than thoſe in which the reſin is divided by an admixture of the gummy matter, of which water is the direct menſtruum

There are two ways of obtaining theſe compound, or gummy-reſinous extracts: one, by uſing proof-ſpirit, that is, a mixture of equal parts of ſpirit and water, for the menſtruum; the other, by digeſting the ſubject firſt in pure ſpirit and then in water, and afterwards uniting into one maſs the parts which the two menſtrua have ſeparately extracted. In ſome caſes, where a ſufficiency of gummy matter is wanting in the ſubject, it may be artificially ſupplied, by inſpiſſating the ſpirituous tincture to the conſiſtence of a balſam, then thoroughly mixing with it a thick ſolution of any ſimple gum, as mucilage of gum arabic, and drying the compound with a gentle heat. By this method are obtained elegant gummy reſins, extemporaneouſly miſcible with water into milky liquors.

Obſervations on Extracts by long Digeſtion.

It has been obſerved, that the virtues of vegetable decoctions are altered by long boiling. Decoctions or infuſions of draſtic vegetables, by long continued boiling or digeſtion loſe more and more of their virulence; and at the ſame time depoſite more and more of a groſs ſediment, reſulting probably from the decompoſition of their active parts, On this foundation it has been attempted to obtain ſafe and mild preparations from ſundry virulent drugs; and ſome of the chemiſts have ſtrongly recommended the proceſs, though without ſpecifying, or giving any intimation of, the continuance of boiling requiſite for producing the due mildneſs in different ſubjects. M Baumé, in his *Elemens de Pharmacie*, has given a particular account of an extract of opium prepared on this principle; of which extract, as it is alleged to be very uſeful in practice, it may not be improper to give a ſhort deſcription: And this we ſhall accordingly ſubjoin to our account of the opium purificatum of the London college.

Obſervations on particular Extracts.

EXTRACTUM CACUMINIS GENISTÆ.
Extract of Broom tops.
CHAMŒMELI.
Chamomile.
GENTIANÆ.
Gentian.
GLYCYRRHIZÆ.
Liquorice.
HELLEBORI NIGRI.
Black hellebore.
PAPAVERIS ALBI.
White poppy.
RUTÆ.
Rue.
SABINÆ.
Savin.

Lond.

Boil the article in diſtilled water, preſs out the decoction, ſtrain it, and ſet it apart that the feces may ſubſide; then evaporate it in a water bath made of a ſaturated ſolution of ſea-ſalt, to a conſiſtence fit for making pills.

The ſame kind of bath is to be uſed in the preparation of all the extracts, that the evaporation may be properly performed.

EXTRACTUM GENTIANÆ.
Edin.
Extract of Gentian.

Take of
Gentian root, as much as you pleaſe.

Having cut and bruiſed it, pour upon it eight times its quantity of water. Boil to the conſumption of one half of the liquor; and ſtrain it by ſtrong expreſſion. Evaporate the decoction to the conſiſtence of thick honey, in a vapour bath.

In preparing this and every other extract, it is neceſſary to keep up a conſtant ſtirring towards the end of the proceſs, in order to prevent an empyreuma, and that the extract may be of an uniform conſiſtence, and free of clots.

In the ſame manner are prepared extracts of the roots of
Black Hellebore.
Liquorice.
of the leaves of
Meadow anemony.
Rue.
Sennæ.
of the flowers of
Chamomile.
and the heads of
White poppy,

All the above extracts contain the virtues of the vegetable in a ſtate of tolerable perfection.

The mode of preparing theſe extracts directed by the London and Edinburgh Colleges is not eſſentially different: But ſome advantage will ariſe from employing the diſtilled water directed by the former; and the directions by the latter with regard to the quantity of water to be uſed, and the degree of boiling to be employed before expreſſion, are not without uſe.

The extract of chamomile loſes in its formation the ſpecific flavour of the plant; but it is ſaid to furniſh a bitter remarkably antiſeptic, which may be given with advantage in different ſtomach complaints to the extent of a ſcruple or two, either by itſelf, or in conjunction with other remedies. The extract of broom tops is chiefly employed in hydropic caſes; and when taken to the quantity of about a drachm is ſaid to operate as a powerful diuretic. The extract is the only preparation of the pulſatilla nigricans or meadow anemone, and it ſeems ſufficiently well ſuited to be brought into this form. The extract of the white poppy-heads is not perhaps ſuperior in any reſpect to opium; but to thoſe who may think otherwiſe, it is convenient to preſerve it in this form for preparing the ſyrup occaſionally.

EXTRACTUM COLOCYNTHIDIS COMPOSITUM.
Lond.
Compound extract of Colocynth.

Take of
Pith of colocynth, cut ſmall, ſix drachms;

- Socotorine aloes, powdered, an ounce and a half;
- Scammony, powdered, half an ounce;
- Smaller cardamom ſeeds, huſked and powdered, one drachm;
- Proof ſpirit, one pint.

Digeſt the colocynth in the ſpirit, with a gentle heat, during four days. To the expreſſed tincture add the aloes and ſcammony: when theſe are diſſolved, diſtil off the ſpirit and evaporate the water, adding the ſeeds towards the end to the proceſs, ſo as to make a maſs of a proper conſiſtence for the formation of pills.

This compoſition anſwers very effectually as a cathartic, ſo as to be relied on in caſes where the patient's life depends on that effect taking place: the doſe is from fifteen grains to half a drachm. The proof ſpirit is a very proper menſtruum for the purgative materials; diſſolving nearly the whole ſubſtance of the aloes and ſcammony, except the impurities; and extracting from the colocynth, not only the irritating reſin, but great part of the gummy matter. In former pharmacopœias three ſpices were employed in this compoſition, cinnamon, mace, and cloves: the cardamom ſeeds, now introduced, are preferable, on account of their aromatic matter being leſs volatile; though a conſiderable part of the flavour, even of theſe, is diſſipated during the evaporation of the phlegmatic part of the proof ſpirit.

ELATERIUM.
Lond.
Elaterium.

SUCCUS SPISSATUS CUCUMERIS.
Ed.
Inſpiſſated juice of wild cucumbers, commonly called *Elaterium.*

Slit ripe wild cucumbers, and paſs the juice, very ſlightly preſſed, through a fine hair ſieve, into a glaſs veſſel: boil it a little and ſet it by for ſome hours until the thicker part has ſubſided. Pour off the thinner part ſwimming at the top, and ſeparate the reſt by filtering: cover the thicker part, which remains after filtration, with a linen cloth, and dry it with a gentle heat.

What happens in part in preparing the extract of hemlock, happens in this preparation completely, viz. the ſpontaneous ſeparation of the medicinal matter of the juice on ſtanding for a little time; and the caſe is the ſame with the juices of ſeveral other vegetables, as thoſe of arum root, iris root, and bryony root. Preparations of this kind have been commonly called *fæculæ.* The filtration above directed, for draining off ſuch part of the watery fluid as cannot be ſeparated by decantation, is not the common filtration through paper, for this does not ſucceed here: The groſſer parts of the juice, falling to the bottom, form a viſcid cake upon the paper, which the liquid cannot paſs through. The ſeparation is to be attempted in another manner, ſo as to drain the fluid from the top: This is effected by placing one end of ſome moiſtened ſtrips or woollen cloth, ſkains of cotton, or the like, in the juice,

juice and laying the other end over the edge of the veſſel, ſo as to hang on the outſide down lower than the ſurface of the liquor: by this management the ſeparation ſucceeds in perfection.

Elaterium is a very violent cathartic. Previous to its operation, it generally excites conſiderable ſickneſs, and frequently produces ſevere vomiting: Hence it is ſeldom employed till other remedies have been tried in vain. In ſome inſtances of aſcites it will produce a complete evacuation of water where other cathartics have had no effect. Two or three grains are in general a ſufficient doſe. The beſt mode of exhibiting it is by giving only half a grain at a time, and repeating that doſe every hour till it begins to operate.

EXTRACTUM HÆMATOXYLI, ſive LIGNI CAMPECHENSIS.

Lond.

Extract of Logwood.

Take of

Shavings of logwood, one pound.

Boil it four times, or oftener, in a gallon of diſtilled water, to one half; then, all the liquors being mixed and ſtrained, boil them down to a proper conſiſtence.

Edin.

It is to be prepared in the ſame manner as extract of Jalap.

The extract of logwood has been uſed for a conſiderable time in ſome of our hoſpitals. It has an agreeable ſweet taſte, with ſome degree of aſtringency; and hence becomes ſerviceable in diarrhœas, for moderately conſtringing the inteſtines and orifices of the ſmaller veſſels. From a ſcruple to half a drachm of it may be given five or ſix times a day. During the uſe of this medicine, the ſtools are frequently tinged red, which has occaſioned the patient to be alarmed, as if the colour proceeded from blood: the practitioner therefore ought to caution him againſt any ſurpriſe of this kind.

The active parts of the logwood are difficultly extracted by means of water alone; Hence the Edinburgh college call in the aid of ſpirit of wine, directing this extract to be prepared in the ſame manner as that of jalap, afterwards to be mentioned.

EXTRACTUM CINCHONÆ, ſive CORTICIS PERUVIANI.

Lond.

Extract of Peruvian bark.

Take of

Peruvian bark, coarſely powdered, one pound;

Diſtilled water, twelve pints.

Boil it for an hour or two and pour off the liquor, which, while hot, will be red and pellucid; but, as it grows cold, will become yellow and turbid. The ſame quantity of water being again poured on, boil the bark as before, and repeat this boiling until the liquor remains clear when cold. Then reduce all theſe liquors, mixed together and ſtrained, to a proper thickneſs, by evaporation.

This extract muſt be prepared under two forms; one *ſoft*, and fit for making pills: the other *hard*, that it may be reducible to a powder.

EXTRACTUM CINCHONÆ ſive CORTICIS PERUVIANI CUM RESINA.

Lond.

Extract of Peruvian bark with the reſin.

Take of

Peruvian bark, reduced to coarſe powder, one pound;

Rectified ſpirit of wine, four pints.

Digeſt it for four days, and pour off the tincture; boil the reſiduum in ten pints of diſtilled water to two; then ſtrain the tincture and decoction ſeparately, evaporating the water from the decoction, and diſtilling off the ſpirit from the tincture, until each begins to be thickened. Laſtly, mix the ſpirituous with the aqueous extract, and by evaporation make it of a conſiſtence fit for forming pills.

EXTRACTUM CORTICIS PERUVIANI, ſive *Cinchonæ.*

Edinb.

Extract of Peruvian bark.

It is to be prepared in the ſame manner as the extract of jalap.

Peruvian bark is a reſinous drug: the reſin melts out by the heat, but is not perfectly diſſolved by the water; hence, it ſeparates as the decoction cools, renders the liquor turbid, and in part falls to the bottom, as appears manifeſtly on examining the ſediment. This extract might be made to better advantage by the aſſiſtance of proof ſpirit. But moſt of the ſpirits which are generally employed for this proceſs among us, are accompanied with ſome degree of a bad flavour: this adheres moſt ſtrongly to the phlegmatic part of the ſpirit, which evaporating laſt, muſt communicate this ill flavour to the extract; which is a circumſtance of very great conſequence, as this medicine is deſigned for ſtomachs that are too weak to bear a due quantity of bark in ſubſtance. Ten or twelve grains of the extract are reckoned equivalent to about half a drachm of the bark itſelf.

In the Peruvian bark, we may readily diſtinguiſh two different kinds of taſtes, an aſtringent and a bitter one; the former reſides principally in the reſinous matter, and the latter chiefly in the gummy. The watery extract is bitter, but has only a ſmall degree of aſtringency. The pure reſin, on the other hand, is ſtrong in aſtringency, and weak in bitterneſs. Both qualities are united in the extract with the reſin; which appears to be the beſt kind of extract that can be obtained from this valuable drug.

EXTRACTUM CASCARILLÆ.

Lond.

Extract of Caſcarilla.

It is to be prepared in the ſame manner, as the extract of Peruvian bark with the reſin.

This extract poſſeſſes in a concentrated ſtate the active conſtituent parts of the caſcarilla, and has accordingly been already received into ſeveral of the beſt foreign pharmacopœias. In ſome of theſe, as the Pharmacopœia Suecica, it is a mere watery extract: but in others, as the Pharmacopœia Roſſica, ſpirits and water are conjoined.

EXTRACTUM JALAPII.
Lond.
Extract of Jalap.

It is to be prepared in the ſame manner as the extract of Peruvian bark with the reſin.

EXTRACTUM JALAPPÆ.
Edinb.
Extract of Jalap.

Take of
Jalap root, one pound;
Rectified ſpirit of wine, four pounds.
Digeſt four days, and pour out the tincture. Boil the remaining magma in ten pounds of water to two pounds; then ſtrain the decoction, and evaporate it to the conſiſtence of pretty thin honey. Draw off the ſpirit from the tincture by diſtillation till what remains becomes thick. Then mix the liquors thus inſpiſſated; and keeping them conſtantly ſtirring, evaporate to a proper conſiſtence.

If the ſpirituous tincture were inſpiſſated by itſelf, it would afford a reſinous maſs, which, unleſs thoroughly divided by proper admixtures, occaſions violent griping, and yet does not prove ſufficiently cathartic; the watery decoctions yield an extract which operates very weakly: both joined together, as in this preparation, compoſe an effectual and ſafe purge. The mean doſe of this extract, is twelve grains.

This method of making extracts might be advantageouſly applied to ſeveral other reſinous ſubſtances, as the dry woods, roots, barks, &c.

EXTRACTUM SENNÆ.
Lond.
Extract of Senna.

Take of
Senna, one pound;
Diſtilled water, one gallon;
Boil the ſenna in the diſtilled water, adding after its decoction a little rectified ſpirit of wine. Evaporate the ſtrained liquor to a proper thickneſs.

This extract had no place in our former pharmacopœias, but may be conſidered as an uſeful addition.

The reſinous parts of ſenna are in ſo ſmall a proportion to the gummy, that they are readily boiled out together. The ſpirit may be added when the decoction is reduced to one half or to three pints.

This extract is given as a gentle purgative in a doſe of from ten grains to a ſcruple; or, in leſs quantity, as an aſſiſtant to the milder laxatives.

OPIUM PURIFICATUM.
Lond.
Purified Opium.

Take of
Opium, cut into ſmall pieces, one pound;
Proof ſpirit of wine, twelve pints.
Digeſt with a gentle heat, now and then ſtirring the liquor, till the opium be diſſolved. Filter the tincture, and diſtil off the ſpirit, till the extract acquire a proper conſiſtence.
Purified opium muſt be kept in two forms; one *ſoft*, proper for forming into pills; the other *hard*,

hard, which may be reduced into powder.

Edin.

Take of
Opium cut into pieces, one pound;
Proof ſpirit twelve pounds.

Digeſt with a gentle heat till the opium be diſſolved, ſtirring the mixture now and then. Strain the liquor through a bag, and reduce it by evaporation to a proper conſiſtency.

OPIUM was formerly purified by means of water, and in this ſtate it had the name in our pharmacopœias of *extractum thebaicum*. But proof ſpirit has been found, by experience, to be the beſt menſtruum for opium, diſſolving three-fourths of dried opium, which is much more than is taken up either by rectified ſpirit or by water ſeparately. Hence we obtain the conſtituents of opium entirely free from any adhering impurities. It has, however, been imagined that ſome particular advantages ariſe from the parts which are extracted by water, eſpecially after long digeſtion; and accordingly the following extract of opium has been recommended by Mr Baumé.

Extract of Opium prepared by long digeſtion.

Let five pounds of good opium, cut in pieces, be boiled about half an hour, in twelve or fifteen quarts of water: ſtrain the decoction, and boil the remainder once or twice in freſh water, that ſo much of the opium as is diſſoluble in water may be got out. Evaporate the ſtrained decoctions to about ſix quarts; which being put into a tin cucurbit, placed in a ſand-bath keep up ſuch a fire as may make the liquor nearly boil, for three months together if the fire is continued day and night, and for ſix months if it is intermitted in the night; filling up the veſſel with water in proportion to the evaporation, and ſcraping the bottom with a wooden ſpatula from time to time, to get off the ſediment which begins to precipitate after ſome days digeſtion. The ſediment needs not to be taken out till the boiling is finiſhed; at which time the liquor is to be ſtrained when cold, and evaporated to an extract of a due conſiſtence for being formed into pills.

THE author obſerves, that by keeping the liquor ſtrongly boiling, the tedious proceſs may be conſiderably expedited, and the ſix months digeſtion reduced to four months; that in the beginning of the digeſtion, a thick, viſcous, oily matter riſes to the top, and forms a tenacious ſkin as the liquor cools; this is ſuppoſed to be analagous to eſſential oils, though wanting their volatility: that the oil begins to diſappear about the end of the firſt month, but ſtill continues ſenſible till the end of the third, forming oily clouds as often as the liquid cools: that the reſin at the ſame time ſettles to the bottom in cooling, preſerving for a long while its reſinous form, but by degrees becoming powdery, and incapable of being any longer ſoftened, or made to cohere by the heat: that when the proceſs is finiſhed, part of it ſtill continues a perfect reſin, diſſoluble in ſpirit of wine, and part an indiſſoluble

diſſoluble powder: that when the digeſted liquor is evaporated to about a quart, and ſet in the cold till next day, it yields a browniſh earthy-ſaline matter, called the eſſential ſalt of opium, in figure nearly like the ſedative ſalt obtained from borax, intermixed with ſmall needled cryſtals. He gives an account of his having made this preparation ſix or ſeven times. The veſſel he uſed was about two inches and a half diameter in the mouth: the quantity of water evaporated was about twenty-four ounces a day, and from a hundred and thirty to a hundred and forty quarts during the whole digeſtion. Out of ſixty-four ounces of opium, ſeventeen ounces remained undiſſolved in the water; the quantity of reſinous matter precipitated during the digeſtion, was twelve ounces: from the liquor, evaporated to a quart, he obtained a drachm of eſſential ſalt, and might, he ſays, have ſeparated more; the liquor being then further evaporated to a pilular conſiſtence, the weight of the extract was thirty-one ounces.

It is ſuppoſed, that the narcotic virtue of opium reſides in the oily and reſinous parts; and that the gummy extract, prepared by the above proceſs, is endowed with the calming, ſedative, or anodyne powers of the opium, diveſted of the narcotic quality as it is of the ſmell, and no longer productive of the diſorders which opium itſelf, and the other preparations of it, frequently occaſion. A caſe is mentioned, from which the innocence and mildneſs of the medicine are apparent; fifty grains having been taken in a day, and found to agree well, where the common opiate preparations could not be borne. But what ſhare it poſſeſſes of the proper virtues of opium is not ſo clear; for the cure of convulſive motions of the ſtomach, and vomitings, which at length happened after the extract had been continued daily in the above doſes for ſeveral years *(pluſieurs annees)* cannot perhaps be aſcribed fairly to the medicine.

If the theory of the proceſs, and of the alteration produced by it in the opium, be juſt, a preparation equivalent to the above may be obtained in a much ſhorter time. If the intention is to ſeparate the reſinous and oily parts of opium, they may be ſeparated by means of pure ſpirit of wine, in as many hours as the digeſtion requires months. The ſeparation will alſo be as complete, in regard to the remaining gum, though ſome part of the gum will in this method be loſt, a little of it being taken up by the ſpirit along with the other principles.

In what particular part of opium its peculiar virtues reſide, has not been inconteſtably aſcertained; but this much ſeems clear from experiment, that the pure gum, freed from all that ſpirit can diſſolve, does not differ eſſentially in its ſoporific power from the reſinous part.

There are grounds alſo to preſume, that by whatever means we deſtroy or diminiſh what is called the narcotic, ſoporific, virulent quality of opium, we deſtroy or diminiſh its ſalutary operation. For the ill effects which it produces in certain caſes, ſeem to be no other than the neceſſary conſequences of the ſame power, by which it proves ſo beneficial in others.

EXTRACTUM ABSINTHII.

Suec.

Extract of Wormwood.

Take any quantity of the tops of wormwood, and pour upon it double its weight of water. Boil it for a ſhort time over a gentle fire, then preſs out the liquor. Boil the reſiduum again in a freſh quantity of water, and after expreſſion, ſtrain it. Let the ſtrained liquor be evaporated in a water-bath to a proper conſiſtence.

In this extract we have one of the ſtrongeſt vegetable bitters in its moſt concentrated ſtate; and though it is not ſuperior to the extract of gentian, yet it furniſhes a good variety, and is a more agreeable form for exhibiting the wormwood than that of ſtrong tincture.

SUCCUS LIQUORITIÆ DEPURATUS.

Dan.

Refined Liquorice.

Take any quantity of Spaniſh liquorice, cut it into ſmall fragments, diſſolve it in tepid water, and ſtrain the ſolution. Let the liquor be poured off from the feculent part after it has ſubſided, and be inſpiſſated by a gentle heat.

The extract of liquorice already mentioned (page 293), when it is prepared with due ſkill and attention, is unqueſtionably an article ſuperior to this; but it is very rarely met with in the ſhops of our druggiſts or apothecaries, as prepared by themſelves. In its place they very commonly employ either the extract brought from Spain, or that prepared by the makers of liquorice at home; both of which generally abound with impurities. It has even been ſaid, that a portion of ſand is not unfrequently mixed with it, to increaſe the weight: but whether the impurities aroſe from this cauſe, or from the ſlovenly mode of preparing it, conſiderable advantage muſt ariſe from freeing it from all theſe, before it be employed for any purpoſe in medicine. In modern practice, it is frequently uſed, in troches and pills, and for ſuſpending powders in water; ſuch as the powder of Peruvian bark: and the powder of bark when thus ſuſpended, is in general taken more readily by children than in any other form. Hence conſiderable advantage muſt ariſe from a proper and eaſy mode of purifying it, which the above proceſs affords.

The chapter on extracts and reſins in the London pharmacopœia is concluded with the two following general directions:

2. All the extracts, during their inſpiſſation, muſt be conſtantly or at leaſt frequently ſtirred.

2. On all the ſofter watery extracts, a ſmall quantity of ſpirit of wine muſt be ſprinkled.

CHAP. V.

OLEA EXPRESSA.

EXPRESSED OILS.

EXPRESSED oils are obtained chiefly from certain ſeeds and kernels of fruits, by pounding them in a ſtone mortar, or, where the quantities are large, grinding them in mills, and then including them in a canvas bag, which is wrapt in a hair-cloth, and ſtrongly preſſed between iron plates. The canvas if employed alone would be ſqueezed ſo cloſe to the plates of the preſs, as to prevent the oil from running down: by the interpoſition of the hair-cloth a free paſſage is allowed it.

Sundry machines have been contrived, both for grinding the ſubject and preſſing out the oil, in the way of buſineſs. To facilitate the expreſſion, it is uſual to warm either the plates of the preſs, or the ſubject itſelf after grinding, by keeping it ſtirring in a proper veſſel over the fire; the oil, liquefied by the heat, ſeparates more freely and more plentifully. When the oil is deſigned for medicinal purpoſes, this practice is not to be allowed; for heat, eſpecially if its degree be ſufficient to be of any conſiderable advantage for promoting the ſeparation, renders the oil leſs ſoft and palatable, impreſſes a diſagreeable flavour, and increaſes its diſpoſition to grow rancid: hence the colleges both of London and Edinburgh expreſsly require the operation to be performed without heat.

Nor are the oils to be kept in a warm place after their expreſſion. Expoſed for a few days to a heat no greater than that of the human body, they loſe their emollient quality, and become highly rancid and acrimonious. Too much care cannot be taken for preventing any tendency to this acrid irritating ſtate in medicines, ſo often uſed for abating immoderate irritation.

So much are theſe oils diſpoſed to this injurious alteration, that they frequently contract an acrimony and rancidity while contained in the original ſubjects. Hence great care is requiſite in the choice of the unctuous ſeeds and kernels, which are often met with very rancid: almonds are particularly liable to inconveniences of this kind.

Expreſſed oils are prepared for mechanic uſes from ſundry different ſubjects, as nuts, poppy-ſeed, hemp-ſeed, rape-ſeed, and others. Thoſe directed for medicinal purpoſes in the London and Edinburgh pharmacopœias are the following:

OLEUM AMYGDALÆ.
Lond.
Oil of Almonds.

Pound freſh almonds either ſweet or bitter in a mortar; and then preſs out the oil in a cold preſs.

OLEUM AMYGDALARUM.
Edin.
Oil of Almonds.

Having bruiſed almonds in a ſtone mortar put them in a hempen bag, and without heat preſs out the oil with a ſcrew preſs.

In the ſame manner are to be expreſſed.

OLEUM E SEMINIBUS LINI
Lond. Edin.
Oil of Lintſeed.

OLEUM E SEMINIBUS RICINI prius cortice nudatis.
Lond. Edin.
Oil of Caſtor.

OLEUM E SEMINIBUS SENAPEOS.
Lond.
Oil of muſtard ſeed.

THE oil of almonds is prepared from the ſweet and bitter almonds indifferently; the oils obtained from both ſorts being exactly the ſame. Nor are the differences of the other oils very conſiderable, the diſcriminating qualities of the ſubjects not reſiding in the oils that are thus obtained by expreſſion. The oil of lintſeed acquires indeed ſome peculiarities from containing a proportion of vegetable mucilage; but the oil of muſtard-ſeed is as ſoft, inſipid, and void of pungency as that of ſweet almonds, the pungency of the muſtard remaining entire in the cake left after the expreſſion. The ſeveral oils differ in ſome of their properties from each other; but in medicinal qualities they appear to be all nearly alike, and agree in one common emollient virtue. They ſoften and relax the ſolids, and obtund acrimonious humours; and thus become ſerviceable internally in pains, inflammations, heat of urine, hoarſeneſs, tickling coughs, &c. in glyſters, for lubricating the inteſtines, and promoting the ejection of indurated feces; and in external applications, for tenſion and rigidity of particular parts. Their common doſe is half an ounce: in ſome caſes, they are given to the quantity of three or four ounces. The moſt commodious forms for their exhibition, we ſhall ſee hereafter in the chapter on Emulſions.

Palma Chriſti, or caſtor oil, as has already been obſerved in the Materia Medica, under the article Ricinus, is a gentle and uſeful purgative: it generally produces its effects without griping, and may be given with ſafety where acrid purgatives are improper. With adults, from half an ounce to an ounce is generally requiſite for a doſe. This article, however, is very ſeldom prepared by our apothecaries, being in general imported from the Weſt Indies.

The Edinburgh College have added the following note.

> Caſtor oil may alſo be prepared by boiling the bruiſed ſeeds in water.

During the boiling, the oil ſeparates and ſwims at the ſurface. The oil thus obtained is much purer and is capable of being kept longer than the other obtained by expreſſion; becauſe the water detains the mucilage which is in large quantity in the expreſſed oil, and which diſpoſes it to ſpoil ſooner.

OLEUM CACAO.

Suec.

Oil of Chocolate Nuts.

Expreſs the oil from the nuts ſlightly toaſted, and freed from their coverings.

In this oil we have the nutritious part of chocolate, free from thoſe aromatics with which it is united in the ſtate in which it is kept in our ſhops. Although under the form of chocolate it ſits perhaps more eaſily on the ſtomach than in moſt other forms; yet where, from any particular circumſtance, aromatics are contraindicated, the oil in its pure ſtate gives us an opportunity of employing in different ways this mild nutritious article.

OLEUM E SEMINIBUS HYOSCYAMI.

Suec.

Oil of Hyoſcyamus.

This oil is directed to be obtained by expreſſion from the ſeeds of the hyoſcyamus, in the ſame manner as that of almonds.

Of the narcotic powers of the hyoſcyamus ſome obſervations have already been offered. This oil, although an expreſſed one, is ſaid to retain theſe virtues; and accordingly it has entered the compoſition of ſome anodyne ointments and plaſters. When however the ſedative power of hyoſcyamus is wanted under the form of oil, it may be beſt obtained from impregnating olive oil by the leaves of the plant.

OLEUM OVI.

Suec.

Egg oil.

Take any quantity of freſh eggs, boil them till they be quite hard, then take out the yolks, break them in pieces, and roaſt them gently in a frying-pan, till they feel greaſy when preſſed between the fingers; put them, while warm, into a hair bag, and expreſs the oil.

The yolk of the egg is well known to be a mild nutritious ſubſtance: but notwithſtanding the many virtues at one time attributed to it, of being paregoric and ſtyptic, when externally applied; and of being uſeful in ſtomach complaints, dyſentery, and different affections of the alimentary canal, when taken internally: it is however much to be doubted whether any particular purpoſe in medicine will be anſwered by this expreſſed oil: but as it holds a place in moſt of the foreign pharmacopœias of modern date, it may juſtly be conſidered as deſerving ſome attention.

Notwithſtanding the juſtice of the obſervation reſpecting the great ſimilarity of expreſſed oils in general, yet there can be no doubt, that in ſome inſtances they obtain a peculiar impregnation. This manifeſtly appears in the oleum ricini, and ſome of the others. Indeed oils expreſſed from aromatic ſubſtances, in general retain ſome admixture of the eſſential oil of the ſubject from which they are expreſſed. Nor is this ſurpriſing, when we conſider that in ſome caſes the eſſential oil exiſts in a ſeparate ſtate even in the growing plant.

The rinds of oranges, lemons, and citrons, yield by a kind of expreſſion, their eſſential oils almoſt pure, and nearly ſimilar to thoſe which are obtained from them by diſtillation. The eſſential oils, in which the fragrance and aromatic warmth of theſe fruits reſide, are contained in numerous little veſicles, which may be diſtinguiſhed by the naked eye, ſpread all over the ſurface of the peel. If the rind be cut in ſlices, and the ſlices ſeparately doubled or bent in different parts, and ſqueezed between the fingers, the veſicles burſt at the bending, and diſcharge the oil in a number of fine ſlender jets. A glaſs plate being ſet upright in a glaſs or procelain veſſel and the ſlices ſqueezed againſt the plate, the little jets unite into drops upon the plate, and trickle down into the veſſel beneath. Although this proceſs affords the true native oil, in the ſame ſtate wherein it exiſted in the ſubject, unaltered by fire or other agents, it is not practicable to advantage, unleſs where the fruit is very plentiful; as only a ſmall part of the oil it contains can thus be extracted or collected.

The oil is more perfectly ſeparated by rubbing the rind upon a lump of ſugar. The ſugar, by the inequality of its ſurface, produces the effect of a raſp, in tearing open the oily veſicles; and in proportion as the veſicles are opened, the ſugar imbibes the oil. When the outward part of the lump is ſufficiently moiſtened, it is ſcraped off, and the operation continued on the freſh ſurface. The oil thus combined with the ſugar, is fit for moſt of the uſes to which it is applied in a fluid ſtate; and indeed the pure eſſential oils, obtained by diſtillation, are often purpoſely mixed with ſugar to render their uſe the more commodious.

CHAP. VI.

OLEA ESSENTIALIA.

ESSENTIAL OILS.

ESSENTIAL oils are obtained only from odoriferous ſubſtances; but not equally from all of this claſs, nor in quantity proportional to their degree of odour. Some, which, if we were to reaſon from analogy, ſhould ſeem very well fitted for this proceſs, yield extremely little oil, and others none at all. Roſes and chamomile flowers, whoſe ſtrong and laſting ſmell promiſes abundance, are found to contain but a ſmall quantity of oil: the violet and jeſſamine flower, which perfume the air with their odour, loſe their ſmell upon the gentleſt coction, and do not afford the leaſt oil on being diſtilled, unleſs immenſe quantities are ſubmitted to the operation at once; while ſavin, whoſe diſagreeable ſcent extends to a great diſtance, gives out the largeſt proportion of oil of almoſt any vegetable known.

Nor are the ſame plants equally fit for this operation, when produced in different ſoils or ſeaſons, or at different times of their growth. Some yield more oil if gathered when the flowers begin to fall off than at any other time. Of this we have examples in lavender and rue; others, as ſage, afford the largeſt quantity when young, before they have ſent forth any flowers; and others, as thyme, when the flowers have juſt appeared. All fragrant herbs yield a larger proportion of oil when produced in dry ſoils and warm ſummers, than in oppoſite circumſtances. On the other hand, ſome of the diſagreeable ſtrong-ſcented ones, as wormwood, are ſaid to contain moſt oil in rainy ſeaſons, and when growing in moiſt rich grounds.

SEVERAL of the chemiſts have been of opinion, that herbs and flowers moderately dried, yield a greater quantity of eſſential oil, than if they were diſtilled when freſh. It is ſuppoſed, that the oil being already blended, in freſh plants, with a watery fluid, great part of it remains diffuſed through the water after the diſtillation, divided into particles too minute to unite and be collected; whereas in drying, the oily parts, on the exhalation of the moiſture which kept them divided and diſperſed, run together into globules, which have little diſpoſition to mix with watery fluids, and eaſily ſeparate from the water employed in the diſtillation.

This theory, however does not appear to be quite ſatisfactory; for though the oil be collected in the ſubject into diſtinct globules, it does not riſe in that form, but is reſolved into vapor, and is blended and coagitated by the heat with the vapour of the water; and if the oil in a dry plant was leſs diſpoſed to unite with aqueous fluids than in a freſh one, the dry ought to yield a weaker infuſion than the freſh; the contrary of which is generally found to obtain. As the oil of the dry plant is moſt perfectly extracted, and kept diſſolved by the water before the diſtillation, it is difficult to conceive any reaſon why it ſhould have a greater tendency to ſeparate from the water afterwards.

The opinion of dry plants yielding moſt oil, ſeems to have ariſen from an obſervation of Hoffman, which has probably been miſunderſtood: "A pound (he ſays) "of dry ſpike flowers yields an "ounce of oil; but if they were "diſtilled freſh, they would ſcarcely yield above half an ounce; "and the caſe is the ſame in balm, "ſage, &c. The reaſon is, that "in drying, the watery humidity "exhales; and as from two "pounds of a freſh plant we do "not obtain above one pound of "dry, and little of the ſubtile "oil evaporates in the drying, it "follows, that more oil ought to "be afforded by the dry than "by the freſh." The meaning of which ſeems to be no more than this, that if two pounds of a freſh plant are by drying reduced to one, without any loſs of the oil, then the one pound dry ought to be equivalent to the two freſh. A late writer quotes an experiment of Neumann, which appears to be miſunderſtood in the ſame manner; for Neumann, in the place referred to, ſays only, that dry wormwood is found to yield much more oil than an *equal weight* of the freſh plant. Trials are yet wanting in which freſh and dry plants have been brought to a fair compariſon, by dividing a quantity of the ſubject into two equal weights, and diſtilling one while freſh, and the other after it has been carefully and moderately dried.

But whatever may be the effect of moderate exſiccation, it is certain, that if the drying be long continued, the produce of oil will be diminiſhed, its colour altered, and its ſmell impaired.

With regard to the proportion of water to be employed, if whole plants, moderately dried, are uſed, or the ſhavings of woods, as much of either may be put into the veſſel as, lightly preſſed, will occupy half its cavity; and as much water may be added, as will fill two thirds of it. The water and ingredients, altogether, ſhould never take up more than three fourths of the ſtill; there ſhould be liquor enough to prevent any danger of an empyreuma, but not ſo much as to be apt to boil over into the receiver.

The maceration ſhould be continued ſo long, that the water may fully penetrate the parts of the ſubject. To promote this effect, woods ſhould be thinly ſhaved acroſs the grain, or ſawn, roots cut tranſverſely into thin ſlices, barks reduced into coarſe powder, and ſeeds ſlightly bruiſed. Very compact and tenacious ſubſtances require the maceration to be continued a week or two, or longer; for thoſe of a ſofter and looſer texture, two or three days are ſufficient; while ſome tender herbs and flowers not only ſtand in no need of maceration, but are even injured by it.

Whether the addition of ſea-ſalt, which has been recommended, be of any real ſervice, is much to be doubted. The uſes generally aſſigned to it are, to penetrate and unlock the texture of the ſubject more effectually than ſimple water could do; and to prevent the fermentation or putrefaction, which the matter is apt to run into during the length of time for which the maceration is often continued. But ſea-ſalt ſeems rather to harden and conſtringe, than to ſoften and reſolve, both vegetable and animal ſubjects; and if it prevents putrefaction, it muſt, on that very account, be injurious rather than of ſervice. The reſolution here aimed at, approaches near to a beginning putrefaction; and ſaline ſubſtances, by retarding this, prolong the maceration far beyond the time that would otherwiſe be neceſſary. It is in the power of the operator, when he perceives the proceſs coming near the pitch, to put a ſtop to it at pleaſure, by proceeding immediately to diſtillation; by this means the whole affair will be finiſhed in a very little time, with at leaſt equal advantage in every other reſpect; provided the manual operations of pounding, raſping, and the like, which are equally neceſſary in either caſe, be ſtrictly complied with.

Some chemiſts pretend, that by the addition of ſalts and acid ſpirits, they have been enabled to gain more oil from certain vegetable matters than could poſſibly be got from them without ſuch aſſiſtance. Experiments made on purpoſe to ſettle this point ſeem to prove the contrary; this at leaſt is conſtantly found to be true, that where there is any reaſon to think the produce greater than uſual, the quality of the oil is proportionally injured. The quantity of true eſſential oil in vegetables can by no means be increaſed; and what is really contained in them may be eaſily ſeparated without any addition of this kind. All that ſaline matters can do in this reſpect, is, to make the water ſuſceptible of a greater degree of heat than it can ſuſtain by itſelf, and thus enable it to carry up a groſs unctuous matter, not volatile enough to riſe with pure water: this groſs matter, mixing with the pure oil, increaſes the quantity, but at the ſame time muſt neceſſarily debaſe its quality. Indeed, when water alone is uſed, the oil which comes over about the end of the operation is remarkably leſs fragrant and of a thicker conſiſtence, than that which riſes at the beginning; and if it be diſtilled a ſecond time, with a gentle heat, it leaves a large quantity of groſs almoſt inſipid reſinous matter behind.

The choice of proper inſtruments is of great conſequence for the performance of this proceſs to advantage. There are ſome oils which paſs freely over the ſwan neck of the head of the common ſtill: others, leſs volatile, cannot eaſily be made to riſe ſo high. For obtaining theſe laſt, we would recommend a large low head, having a rim or hollow canal round it: in this canal the oil is detained on its firſt aſcent, and thence conveyed at once into the receiver, the advantages of which are ſufficiently obvious.

With regard to the fire, the operator ought to be expeditious in raiſing it at firſt, and to keep it up, during the whole proceſs, of ſuch a degree only, that the oil may freely diſtil; otherwiſe the oil will be expoſed to an unneceſſary heat; a circumſtance which ought as much as poſſible to be avoided. Fire communicates to all theſe oils a diſagreeable impregnation, as is evident from their being much leſs grateful when newly diſtilled, than after they have ſtood for ſome time in a cool place; and the longer the heat is continued, the more alteration it muſt produce in them.

The greater number of oils require for their diſtillation the heat of water ſtrongly boiling: but there are many alſo which riſe with a heat conſiderably leſs; ſuch as thoſe of lemon and citron peel, of the flowers of lavender and roſemary, and of almoſt all the more odoriferous kinds of flowers. We have already obſerved, that theſe flowers have their fragrance much injured, or even deſtroyed, by beating or bruiſing them; it is impaired alſo by the immerſion in water in the preſent proceſs, and the more ſo in proportion to the continuance of the immerſion and the heat: hence oils, diſtilled in the common manner, prove much leſs agreeable in ſmell than the ſubjects themſelves. For the diſtillation of ſubſtances of this claſs, another method has been contrived; inſtead of being immerſed in water, they are expoſed only to its vapour. A proper quantity of water being put into the bottom of the ſtill, the odoriferous herbs or flowers are laid lightly in a baſket, of ſuch a ſize that it may enter into the ſtill, and reſt againſt its ſides, juſt above the water. The head being then fitted on, and the water made to boil, the ſteam, percolating through the ſubject, imbibes the oil, without impairing its fragrance, and carries it over into the receiver. Oils thus obtained poſſeſs the odour of the ſubject in an exquiſite degree, and have nothing of the diſagreeable ſcent perceivable in thoſe diſtilled by boiling them in water in the common manner

It may be proper to obſerve, that thoſe oils which riſe with a leſs heat than that of boiling water, are generally called, by the chemical and pharmaceutical writers, *light* oils; and thoſe which require the heat of water ſtrongly boiling, are called *ponderous*. We have avoided theſe expreſſions, as they might be thought to relate to the comparative *gravities* of the oils; with which the volatility or fixedneſs have no connection. Olive oil is lighter than moſt of the eſſential oils; but the heat requiſite to make it diſtil exceeds that in which the heavieſt eſſential oil diſtils, conſiderably more than the heat of boiling water exceeds that of ice.

The water employed in the diſtillation of eſſential oils always imbibes ſome portion of the oil; as is evident from the ſmell, taſte, and colour, which it acquires. It cannot, however retain above a certain quantity; and therefore, ſuch as has been already uſed and conſequently ſaturated with oil, may be advantageouſly employed, inſtead of common water, in a ſecond, third, or any future diſtillation of the ſame ſubject.

Some late chemical writers recommend, not the water which comes over, but that which remains in the ſtill, to be uſed a ſecond time. This can be of no ſervice: as containing only ſuch parts of the vegetable as are incapable of ariſing in diſtillation, and which ſerve only to impede the action of the water as a menſtruum, and to endanger an empyreuma.

After the diſtillation of one oil, particular care ſhould be taken to clean the worm before it be employed in the diſtillation of a different plant. Some oils, thoſe of wormwood and aniſeeds for inſtance, adhere to it ſo tenaciouſly, as not to be melted out by heat, or waſhed off by water: in theſe caſes the beſt way of cleaning the worm is to run a little ſpirit of wine through it.

Eſſential oils, after they are diſtilled, ſhould be ſuffered to ſtand for ſome days in veſſels looſely covered with paper, till they have loſt their diſagreeable fiery odour and become limpid: then put them up in ſmall bottles, which are to be kept quite full, cloſely ſtopped, in a cool place: with theſe cautions, they will retain their virtues in perfection for many years.

When careleſsly kept, they gradually loſe their flavour, and become groſs and thick. Some chemiſts endeavour to recover them after they have undergone this change, by grinding them with about thrice their weight of common ſalt, then adding a large proportion of water, and diſtilling them afreſh: the purer part ariſes thin and limpid, poſſeſſing a great degree of the priſtine ſmell and taſte of the oil. This rectification, as it is called, ſucceeds equally well without the ſalt: the oils, when thus altered, are nearly in the ſame ſtate with the turpentines, and other thickened oily juices, which readily yield their purer oil in diſtillation with water alone.

When eſſential oils have either in part or entirely loſt their ſmell they may be put into the ſtill with freſh ingredients for diſtilling the ſame oil, by which means they are ſaid to ſatiate themſelves anew with the odorous matter, and become entirely renovated.

Eſſential oils, medicinally conſidered, agree in the general qualities of pungency and heat; in particular virtues, they differ as much as the ſubject from which they are obtained, the oil being the direct principle in which the virtues, or at leaſt a conſiderable part of the virtues, of the ſeveral ſubjects reſide. Thus the carminative virtue of the aromatic ſeeds, the diuretic of juniper berries, the emmenagogue of ſavin, the nervine of roſemary, the ſtomachic of mint, the antiſcorbutic of ſcurvy-graſs the cordial of aromatics, &c. are ſuppoſed to be concentrated in their oil.

There is another remarkable difference in eſſential oils; the foundation of which is leſs obvious, viz. the degree of their pungency and heat. Theſe are by no means in proportion, as might be expected, to thoſe of the ſubject they were drawn from. The oil of cinnamon, for inſtance, is very pungent and fiery; in its undiluted ſtate it is almoſt cauſtic; whereas cloves, a ſpice which in ſubſtance is far more pungent than the other, yields an oil which is far leſs ſo. This difference ſeems to depend partly on the quantity of oil afforded, cinnamon yielding much leſs than cloves, and conſequently having its active matter concentrated into a ſmaller volume; partly, on a difference in the nature of the active parts themſelves; for though eſſential oils contain always the ſpecific odour and flavour of their ſubjects, whether grateful or ungrateful

grateful, they do not always contain the whole pungency: this reſides frequently in a more fixed reſinous matter, and does not ariſe with the oil. After the diſtillation of cloves, pepper, and ſome other ſpices, a part of their pungency is found to remain behind: a ſimple tincture of them in rectified ſpirit of wine is even more pungent than their pure eſſential oils.

The more grateful oils are frequently uſed for reconciling diſguſtful medicines to the ſtomach. It has been cuſtomary to employ them as correctors for the reſinous purgatives; an uſe which they do not ſeem to be well adapted to. All the ſervice they can here be of, is, to make the reſin ſit more eaſily at firſt on the ſtomach: far from abating the irritating quality on which the virulence of its operation depends, theſe pungent oils ſuperadd a freſh ſtimulus.

Eſſential oils are never given alone, on account of their extreme heat and pungency: which in ſome is ſo great, that a ſingle drop let fall upon the tongue, produces a gangrenous eſchar. They are readily imbibed by pure dry ſugar, and in this form may be conveniently exhibited. Ground with eight or ten times their weight of ſugar, they become ſoluble in aqueous liquors, and may be thus diluted to any aſſigned degree. Mucilages alſo render them miſcible with water into an uniform milky liquor. They diſſolve likewiſe in ſpirit of wine; the more fragrant in equal weight, and almoſt all of them in leſs than four times their own quantity; theſe ſolutions may be either taken on ſugar, or mixing with ſyrups, or the like: on mixing them with water, the liquor grows milky, and the oil ſeparates.

The more pungent oils are employed externally againſt paralytic complaints, numbneſs, pains, and aches, cold tumours, and in other caſes where particular parts require to be heated or ſtimulated. The tooth ach is ſometimes relieved by a drop of theſe almoſt cauſtic oils, received on cotton, and cautiouſly introduced into the hollow tooth.

OLEUM ESSENTIALE.

Lond.

Eſſential oil.

Aniſi,	of	Aniſe,
Carui,		Caraway
Lavendulæ,		Lavender
Menthæ piperitidis,		Peppermint
Menthæ ſativæ,		Spearmint
Origani,		Origanum
Pulegii,		Pennyroyal
Roriſmarini,		Roſemary
Baccæ juniperi,		Juniper berry
Radicis ſaſſafras,		Saſſafras root

Let theſe oils be drawn off by diſtillation, from an alembic with a large refrigeratory; but, to prevent an empyreuma, water muſt be added to the ingredients; in which they muſt be macerated before diſtillation.

The water which comes over with the oil in diſtillation is to be kept for uſe.

OLEA ESSENTIALIA.

Edinb.

Eſſential oils.

Menthæ ſativæ,	of	Spearmint
Menthæ piperitidis,		Peppermint
Sabinæ,		Savin
Roriſmarini,		Roſemary
Lavendulæ,		Lavender

Aniſi,

Aniſi,	Aniſe
Baccarum juniperi,	Juniper-berries
Radicis ſaſſafras,	Saſſafras root
Pimentæ,	Jamaica pepper.

Theſe are prepared almoſt in the ſame manner as the ſimple diſtilled waters, excepting that for procuring the oil a ſomewhat leſs quantity of water is to be uſed. Seeds and woody matters are firſt to be bruiſed or raſped. The oil riſes with the water; and as it is lighter or heavier, ſwims on the ſurface, or ſinks to the bottom, and is afterwards to be ſeparated.

It is, however, to be remarked, that, in preparing theſe diſtilled waters and oils, ſo many varieties muſt neceſſarily take place from the goodneſs of the ſubject itſelf, its texture, the time of the year, and ſuch like circumſtances, that a certain and general rule, which ſhould ſtrictly apply to each, can ſcarcely be laid down; wherefore we have only explained the general method, leaving particular circumſtances to be varied by the judgement of the operator.

To the directions for preparing theſe eſſential oils given by the London and Edinburgh colleges, we ſhall here next ſubjoin a few remarks on their medical properties.

OLEUM ESSENTIALE SEMINUM ANISI.

Lond. Edin.

Eſſential Oil of Aniſeeds.

This oil poſſeſſes the taſte and ſmell of the aniſeeds in perfection. It is one of the mildeſt of the diſtilled oils; 15 or 20 drops may be taken at a time without danger, though common practice rarely goes ſo far as half this number. Its ſmell is extremely durable and diffuſive; milk drawn from the the breaſt after taking it, is found impregnated with its odour: and poſſibly this may be, in part, the foundation of the pectoral virtues uſually aſcribed to it.

It is remarkable of this oil, that it congeals, even when the air is not ſenſibly cold, into a butyraceous conſiſtence: and hence, in the diſtillation of it, the operator ought not to be over ſolicitous in keeping the water in the refrigeratory too cool: it behoves him rather to let it grow ſomewhat hot, particularly towards the end of the proceſs; otherwiſe the oil congealing, may ſo ſtop up the worm, as to endanger blowing off the head of the ſtill, or at leaſt a conſiderable quantity of oil will remain in it.

OLEUM ESSENTIALE SEMINUM CARUI.

Lond.

Eſſential Oil of Caraway Seeds.

The flavour of this exactly reſembles that of the caraway itſelf. It is a very hot and pungent oil; a ſingle drop is a moderate doſe, and five or ſix is a very large one. It is frequently uſed as a carminative; and has been generally ſuppoſed to be peculiarly ſerviceable for promoting urine, to which it communicates ſome degree of its ſmell.

OLEUM ESSENTIALE FLORUM LAVENDULÆ.

Lond. Edin.

Eſſential Oil of Lavender.

This oil, when in perfection, is very limpid, of a pleaſant yellowiſh colour, extremely fragrant, poſſeſſing in an eminent degree the peculiar ſmell generally admired in the flowers. It is a medicine of great uſe, both externally and internally, in paralytic and lethargic complaints, rheumatic pains, and debilities of the nervous ſyſtem. The doſe is from one drop to five or ſix.

Lavender flowers yield the moſt fragrant oil, and conſiderably the largeſt quantity of it, when they are ready to fall off ſpontaneouſly, and the leaves begin to ſhew themſelves: the ſeeds give out extremely little. The flowers may be ſeparated from the reſt of the plant by drying it a little, and then gently beating it: they ſhould be immediately committed to diſtillation, and the proceſs conducted with a well regulated gentle heat; too great a heat would not only change the colour of the oil, but likewiſe make a diſagreeable alteration in its ſmell.

OLEUM ESSENTIALE MENTHÆ PIPERITIDIS.

Lond. Edinb.

Eſſential oil of Peppermint.

This poſſeſſes the ſmell, taſte, and virtues of the peppermint in perfection; the colour is a pale greeniſh yellow. It is a medicine of great pungency and ſubtility; and diffuſes, almoſt as ſoon as taken, a glowing warmth through the whole ſyſtem. In colics, accompanied with great coldneſs, and in ſome hyſteric complaints, it is of excellent ſervice. A drop or two are in general a ſufficient doſe.

OLEUM ESSENTIALE MENTHÆ SATIVÆ.

Lond. Edinb.

Eſſential oil of common Mint.

This oil ſmells and taſtes ſtrongly of the mint, but is in both reſpects ſomewhat leſs agreeable than the herb itſelf. It is an uſeful ſtomachic medicine; and not unfrequently exhibited in want of appetite, weakneſs of the ſtomach, retchings to vomit, and other like diſorders, when not accompanied with heat or inflammation: two or three drops, or more, are given for a doſe. It is likewiſe employed externally for the ſame purpoſes; and is an uſeful ingredient in the ſtomachic plaſter of the ſhops.

OLEUM ESSENTIALE ORIGANI.

Lond.

Eſſential oil of Origanum.

This oil has a very pungent acrimonious taſte, and a penetrating ſmell. It has been chiefly employed externally as an errhine and for eaſing pains of the teeth.

OLEUM ESSENTIALE PULEGII.

Lond.

Eſſential oil of Pennyroyal.

This oil, in ſmell and taſte, reſembles the original plant; the virtues of which it likewiſe poſſeſſes. It is given, in hyſteric caſes, from one to four or five drops.

OLEUM ESSENTIALE RORISMARINI.

Lond. Edinb.

Eſſential oil of Roſemary.

The oil of roſemary is drawn from the plant in flower. When in perfection, it is very light and thin, pale, and almoſt colourleſs: of great fragrancy, though not quite ſo agreeable as the roſemary itſelf. It is recommended, in the doſe of a few drops, in nervous and hyſteric complaints. Boerhaave holds it in great eſteem againſt epilepſies, and ſuppreſſions of the uterine purgations occaſioned by weakneſs and inactivity.

OLEUM ESSENTIALE BACCARUM JUNIPERI.

Lond. Edinb.

Eſſential oil of Juniper.

This oil is a very warm and pungent one; of a ſtrong flavour, not unlike that of the berries. In the doſe of a drop or two, it proves a ſerviceable carminative and ſtomachic; in one of ſix, eight, or more, a ſtimulating, detergent diuretic and emmenagogue: it ſeems to have ſomewhat of the nature of the turpentines, or their diſtilled oil; like which it communicates a violet ſmell to the urine.

The oil of theſe berries reſides partly in veſicles ſpread through the ſubſtance of the fruit, and partly in little cells contained in the ſeeds: when the berry is dry, and the oil hardened into a reſinous ſubſtance, it becomes viſible, on breaking the ſeeds, in form of little tranſparant drops. In order therefore to obtain this oil to advantage, we ought, previous to the diſtillation, to bruiſe the berry thoroughly, ſo as to break the ſeeds, and entirely lay open the oily receptacles.

OLEUM ESSENTIALE SASSAFRAS.

Lond. Edinb.

Eſſential oil of Saſſafras.

This is the moſt ponderous of all the known eſſential oils, but riſes in diſtillation with ſufficient eaſe: it appears limpid as water, has a moderately pungent taſte, a very fragrant ſmell, exactly reſembling that of the ſaſſafras. It ſtands greatly commended as a ſudorific, and for purifying the blood and juices: it is likewiſe ſuppoſed to be of ſervice in humoral aſthmas and coughs. The doſe is from one drop to eight or ten; though Geoffroy goes as far as twenty.

The decoction remaining after the diſtillation of the oil, affords by inſpiſſation an uſeful extract, of a mild bitteriſh ſubaſtringent taſte. Hoffman ſays, he has given it with great benefit, in doſes of a ſcruple, as a corroborant in cachectic caſes, in the decline of intermitting fevers, and for abating hypochondriacal ſpaſms.

OLEUM ESSENTIALE SABINÆ.

Lond. Edinb.

Eſſential oil of Savin.

Savin is one of the plants which, in former editions of the Edinburgh Pharmacopœia, were directed to be ſlightly fermented before the diſtillation: this, however, is not very neceſſary; for ſavin yields, without fermentation, and even without any ſuch maceration, a very large quantity of oil. The oil of ſavin is a celebrated uterine and emmenagogue: in cold phlegmatic habits, it is undoubtedly a medicine of great ſervice, though not capable of performing what it has been often repreſented to do. The doſe is, two or three drops, or more.

OLEUM ESSENTIALE PIMENTÆ.

Edinb.

Eſſential oil of Jamaica Pepper.

This is a very elegant oil, and may be uſed as a ſuccedaneum for theſe of ſome of the dearer ſpices. It is of a fine pale colour; in flavour more agreeable than the oil of cloves, and not far ſhort of that of nutmegs. It ſinks in water, like the oils of ſome of the eaſtern ſpices.

OLEUM PETROLEI.

Lond.

Oil of foſſil Tar.

Diſtil foſſil tar, i. e. *petroleum*, in a ſand heat.

The oil obtained from this tar will be more or leſs thin according to the continuance of the diſtillation; and by its continuance the tar will at laſt be reduced to a black coal; and then the oil will be pretty deep in colour, though perfectly fluid. This oil has a property ſimilar to that of the tincture of nephritic wood in water, appearing blue when looked upon, but of an orange colour when held between the eye and the light. By long keeping it loſes this property. It is leſs diſagreeable than ſome of the other empyreumatic oils which had formerly a place in our pharmacopœia, ſuch as the oleum lateritium, though very acrid and ſtimulating.

OLEUM TEREBINTHINÆ.

Lond.

Oil of Turpentine.

Take of

Common turpentine, five pounds;
Water, four pints.

Diſtil the turpentine with the water in a copper alembic. After the diſtillation of the oil, what remains is yellow reſin.

OLEUM TEREBINTHINÆ RECTIFICATUM.

Lond. Edinb.

Rectified oil of Turpentine.

Take of

Oil of turpentine, one pound;
Water, four pints.

Diſtil. The Edinburgh pharmacopœia ſays, "as long as any "oil comes over."

The proceſs here propoſed for rectifying this oil, is not only tedious but accompanied with danger. For unleſs the luting be very cloſe, ſome of the vapour will be apt to get through; and if this catch fire, it will infallibly burſt the veſſels. This rectified oil, which in many pharmacopœias is ſtyled ethereal, does not conſiderably differ in ſpecific gravity, ſmell, taſte, or medical qualities, from the former.

The ſpirit of turpentine, as this eſſential oil has been ſtyled, is frequently taken internally as a diuretic and ſudorific, and it has ſometimes a conſiderable effect when taken even to the extent of a few drops only. It has, however, been given, in much larger doſes, eſpecially when mixed with honey. Recourſe has principally been had to ſuch doſes in caſes of chronic rheumatiſm, particularly in thoſe modifications of it which are ſtyled *ſciatica* and *lumbago.* But they have not often been ſucceſsful, and ſometimes they have had the effect of inducing bloody urine.

OLEUM ANIMALE.
Lond.
Animal oil.

Take of
Oil of hartſhorn, one pound.
Diſtil three times.

OLEUM E CORNUBUS RECTIFICATUM, ſive OLEUM ANIMALE.
Edinb.
Rectified oil of Horns, or *animal oil.*

Take of
Empyreumatic oil, newly diſtilled from the horns of animals, as much as you will.
Diſtil with a gentle heat, in a matraſs furniſhed with a head, as long as a thin colourleſs oil comes over, which is to be freed from the volatile alkali that it contains by means of water. That this oil may remain limpid and good, it ought to be put up in ſmall phials completely filled and inverted, having previouſly put into each phial a few drops of water, that on inverting the phial the water may interpoſe itſelf between the oil and the ſtopper of the phial.

It is ſaid, that the product is rendered more limpid, by mixing the oil with quick-lime into a ſoft paſte; the lime keeping down more of the groſs matter than would remain without ſuch an addition.

This oil was firſt introduced by Dippelius, whoſe name it has ſince generally borne.

Animal oil thus rectified, is thin and limpid, of a ſubtle, penetrating, not diſagreeable ſmell and taſte. It is ſtrongly recommended as an anodyne and antiſpaſmodic in doſes from 15 to 30 drops. Hoffman reports, that it procures a calm and ſweet ſleep, which continues often for 20 hours, without being followed by any languor or debility, but rather leaving the patient more alert and cheerful than before: that it procures likewiſe a gentle ſweat, without increaſing the heat of the blood: that given to 20 drops or more, on an empty ſtomach ſix hours before the acceſſion of an intermittent fever, it frequently removes the diſorder; and that it is likewiſe a very general remedy in inveterate and chronical epilepſies, and in convulſive motions, eſpecially if given before the uſual time of the attack, and preceded by proper evacuations.

The empyreumatic oils of vegetables, rectified in the ſame manner by repeated diſtillations, ſuffer a change ſimilar to that which the animal oils do; loſing their dark colour and offenſive ſmell, and becoming limpid, penetrating, and agreeable: in this ſtate they are ſuppoſed, like the animal oil, to be anodyne, antiſpaſmodic, and diaphoretic. It is obſervable, that all the empyreumatic oils diſſolve in ſpirit of wine, and that the oftener they are rectified or rediſtilled, they diſſolve the more readily; a circumſtance in which they differ remarkably from eſſential oils, which by repeated diſtillations, become more and more difficult of ſolution.

How far theſe preparations really

poſſeſs the virtues that have been aſcribed to them, has not yet been ſufficiently determined by experience; the tedious neſs and trouble of the rectification having prevented their coming into general uſe, or being often made. They are liable alſo to more material inconvenience in regard to their medicinal uſe, namely precariouſneſs in their quality; for how perfectly ſoever they may be rectified, they gradually loſe, in keeping, the qualities they had received from that proceſs, and return more and more towards their original fetid ſtate.

SAL ET OLEUM SUCCINI.

Lond.

Salt and Oil of Amber.

Take of
Amber, two pounds.
Diſtil in a ſand heat, gradually augmented: an acid liquor, oil, and ſalt impregnated with oil, will aſcend.

OLEUM ET SAL SUCCINI.

Edinb.

Oil and ſalt of Amber.

Take
Equal parts of amber reduced to a powder, and of pure ſand.
Mix them, and put them into a glaſs retort, of which the mixture may fill one half: then adapt a large receiver, and diſtil in a ſand bath with a fire gradually increaſed. At firſt a ſpirit will come over, with ſome yellow oil: then a yellow oil, with the ſalt; and laſtly, a reddiſh and black coloured oil.
When the diſtillation is finiſhed, pour the liquor out of the receiver, and ſeparate the oil from the water. Scrape off the ſalt adhering to the neck of the retort and ſides of the receiver, and dry it by gentle preſſure between folds of blotting papper; then purify it by ſolution in warm water and cryſtalliſation.

OLEUM SUCCINI RECTIFICATUM, ſive PURISSIMUM.

Edinb.

Diſtil the oil in a glaſs retort with ſix times its quantity of water, till two thirds of the water have paſſed into the receiver; then ſeparate the rectified oil from the water, and keep it for uſe in well ſtopped phials.

OLEUM SUCCINI RECTIFICATUM.

Lond.

Rectified Oil of Amber.

Take of
Oil of amber, one pound.
Diſtil three times.

SAL SUCCINI PURIFICATUS.

Lond.

Purified Salt of Amber.

Take of
Salt of amber half a pound;
Diſtilled water, one pint.
Boil the ſalt in the diſtilled water, and ſet aſide the ſolution to cryſtalliſe.

In the diſtillation of amber, the fire muſt for ſome time be continued gentle, ſcarcely exceeding the degree at which water boils, till the aqueous phlegm and thin oil have ariſen; after which it is to be ſlowly increaſed. If the fire were urged haſtily, the amber would ſwell up, and riſe in its whole ſubſtance into the receiver, without undergoing the required decompoſition or ſeparation of its parts. When ſand or ſimilar intermedia are mixed with it, it is leſs ſubject to this accident, and the fire may be raiſed ſomewhat more expeditiouſly.

Our chemiſts generally leave the receiver unluted, that it may be occaſionally removed as the ſalt riſes and concretes in the neck of the retort; from whence it is every now and then ſcraped out to prevent the oil from carrying it down into the receiver. When a groſs thick oil begins to ariſe, and no more ſalt appears, the diſtillation is ſtopt, though it might, perhaps, be continued longer to advantage.

Mr Pott informs us (in a curious diſſertation on the ſalt of amber, publiſhed in the ninth volume of the Memoirs of the Academy of Sciences of Berlin), that the Pruſſian workmen, who prepare large quantities of this ſalt for exportation, from cuttings and ſmall pieces of amber, perform the diſtillation without any intermedium, and in an open fire: that ſweeping out the ſalt from the neck of the retort being found too troubleſome, they ſuffer the oil to carry it down into the receiver, and afterwards ſeparate it by means of bibulous paper, which imbibes the oil, and leaves the ſalt dry; which paper is afterwards ſqueezed and diſtilled; that they continue the diſtillation till all that can be forced over has ariſen, taking care only to catch the laſt thick oil in a ſeparate receiver; and that from this they extract a conſiderable quantity of ſalt, by ſhaking it in a ſtrong veſſel with three or four freſh portions of hot water, and evaporating and cryſtalliſing the filtered waters.

The ſpirit of amber ſo called, is no more than a ſolution of a ſmall portion of the ſalt in phlegm or water; and therefore is very properly employed for diſſolving the ſalt in order to its cryſtalliſation.

The ſalt, freed from as much of the oil as ſpongy paper will imbibe, retains ſo much as to appear of a dark brown colour. Mr Pott ſays, the method he has found to ſucceed beſt, and with leaſt loſs, is, to diſſolve the ſalt in hot water, and put into the paper through which the ſolution is to be filtered, a little cotton ſlightly moiſtened with oil of amber: this, he ſays, detains a good deal of the oil of the ſalt, and the ſolution paſſes through the more pure. The liquor being evaporated with a very gentle fire, as that of water bath, and ſet to ſhoot, the firſt cryſtals prove tranſparent with a ſlight yellowiſh tinge; but thoſe which follow are brown, oily, and bitter, and are therefore to be farther depurated in the ſame manner. The whole quantity of cryſtals amounts to about one-thirtieth of the weight of the crude amber employed. By ſublimation with the addition of ſea-ſalt, as directed in former editions of the Edinburgh Pharmacopœia, the ſalt is thought to be more perfectly and more expeditiouſly purified: Mr Pott objects to ſublimation, that a part of the ſalt is decompoſed by it, a coaly matter being left behind, even though the ſalt was previouſly purified by cryſtalliſation; it may be preſumed, however, that this coal proceeds rather from the burning of ſome remains of the oily matter, than from the decompoſition of any part of the true ſalt.

Pure ſalt of amber has a penetrating, ſubaſtringent acid, taſte. It diſſolves both in water and in rectified ſpirit; though not readily in either, and ſcarcely at all in the latter without the aſſiſtance of heat: of cold water in ſummer, it requires for its ſolution about twenty times its own weight: of boiling water, only about twice its weight. Expoſed in a glaſs veſſel, to a heat little greater than that of boiling water, it firſt melts, then riſes in a white fume, and concretes again in the upper part of the glaſs into fine white flakes, leaving, unleſs it was perfectly pure, a little coaly matter behind. It effervefces, with alkalies both fixed and volatile, and forms with them neutral compounds, much reſembling thoſe compoſed of the ſame alkalies and vegetable acids. Mixed with acid liquors, it makes no ſenſible commotion. Ground with fixed alkaline ſalts, it does not exhale any urinous odour. By theſe characters, it is conceived this ſalt may be readily diſtinguiſhed from all the other matters that have been mixed with, or vended for it. With regard to its virtue, it is accounted aperient, diuretic, and, on account of its retaining ſome portion of the oil, antihyſteric: Boerhaave gives it the character of *diureticorum et antihyſtericorum princeps.* Its great price, however, has prevented its coming much into uſe; and perhaps its real virtues are not equal to the opinion generally entertained of them.

The rectified oil has a ſtrong bituminous ſmell, and a pungent acrid taſte. Given in a doſe of ten or twelve drops, it heats, ſtimulates, and promotes the fluid ſecretions: It is chiefly celebrated in hyſterical diſorders, and in deficiences of the uterine purgations. Sometimes it is uſed externally, in liniments for weak or paralytic limbs and rheumatic pains. This oil differs from all thoſe of the vegetable kingdom, and agrees with the mineral petrolea, in not being ſoluble, either in its rectified or unrectified ſtate, by ſpirit of wine, fixt alkaline lixivia, or volatile alkaline ſpirits; the oil, after long digeſtion or agitation, ſeparating as freely as common oil does from water.

OLEUM VINI.

Lond.

Oil of Wine.

Take of

Alcohol,

Vitriolic acid, of each one pint.

Mix them by degrees, and diſtil; taking care that no black foam paſſes into the receiver. Separate the oily part of the diſtilled liquor from the *volatile vitriolic acid.*—To the oily part add as much water of *pure kali* as is ſufficient to correct the ſulphureous ſmell; then diſtil the *ether* with a gentle heat. The oil of wine remains in the retort, ſwimming on the watery liquor; from which it is to be ſeparated.

Some caution is requiſite in mixing the two liquors, that the conſequent heat and ebullition (which would not only diſſipate a part of the mixture, but hazard the breaking of the veſſel and hurt the operator), may be avoided. The ſecureſt way is to add the vitriolic acid to the ſpirit of wine by a little at a time, waiting till the firſt addition be incorporated before another quantity be put in. By this, the enſuing heat is inconſiderable, and the mixture is effected without inconvenience.

OLEUM ABSINTHII DISTILLATUM.

Roſſ

Eſſential Oil of Wormwood.

Let the freſh leaves of wormwood ſlightly dried be macerated with a ſufficient quantity of water, and then ſubjected to diſtillation; and let the oil which comes over be ſeparated from the water which accompanies it.

This is one of the more ungrateful oils; it ſmells ſtrongly of the wormwood, and contains its particular nauſeous taſte, but has little or nothing of its bitterneſs, this remaining entire in the decoction left after the diſtillation: its colour, when drawn from the freſh herb, is a dark green; from the dry, a browniſh yellow. This oil is recommended by Hoffman as a mild anodyne in ſpaſmodic contractions: for this purpoſe, he directs a drachm of it to be diſſolved in an ounce of rectified ſpirit of wine, and ſeven or eight drops of the mixture taken for a doſe in any convenient vehicle. Boerhaave greatly commends in tertian fevers, a medicated liquor compoſed of about ſeven grains of this oil ground firſt with a drachm of ſugar, then with two drachms of the ſalt of wormwood, and afterwards diſſolved in ſix ounces of the diſtilled water of the ſame plant: two hours before the fit is expected, the patient is to bathe his feet and legs in warm water, and then to drink two ounces of the liquor every quarter of an hour till the two hours are expired: by this means, he ſays, all caſes of this kind are generally cured with eaſe and ſafety, provided there be no ſcirrhoſity or ſuppuration. The oil of wormwood is employed chiefly as a vermifuge; and for this purpoſe is ſometimes applied both externally to the belly, and taken internally; it is moſt conveniently exhibited in the form of pills, into which it may be reduced by mixing it with crumb of bread.

In the ſame manner with the oleum abſinthii, the following oils, mentioned on the authority of the pharmacopœia Roſſica, are alſo directed to be prepared.

OLEUM AURANTII CORTICUM.

Roſſ

Eſſential Oil of Orange-peel.

OLEUM CORTICUM LIMONUM.

Eſſence of Lemons.

Of theſe eſſential oils, as exiſting in a ſeparate ſtate in the growing vegetable, we have already offered ſome obſervations. They are obtained in a very pure ſtate by diſtillation. They are now rejected from our pharmacopœias, being employed rather as perfumes than as medicines. This is particularly the caſe with the eſſence of lemons, which is a pleaſant oil, of a fine ſmell, nearly as agreeable as that of the freſh peel; it is one of the lighteſt and moſt volatile eſſential oils we have, perfectly limpid, and almoſt colourleſs. It is taken in doſes of two or three drops, as a cordial, in weakneſs of the ſtomach, &c. though more frequently uſed as a perfume. It gives a fine flavour to the officinal *Spiritus ammoniæ compoſitus.* When ſope is given in the form of pills, the addition of a few drops of this oil is thought to make it ſit more eaſily on the ſtomach.

OLEUM CARYOPHYLLORUM AROMATICORUM ESSENTIALE.

Roſſ.

Eſſential Oil of Cloves.

This oil is ſo ponderous as to ſink in water, and is not eaſily elevated in diſtillation: if the water which comes over be returned on the remaining cloves, and the diſtillation repeated, ſome more oil will generally be obtained, though much inferior in quality to the firſt. The oil of cloves is uſually deſcribed as being "in "taſte exceſſively hot and fiery, "and of a gold yellow colour," *(Boerh. proceſſ.)* Such indeed is the compoſition which we receive under this name from Holland; but the genuine oil of cloves is one of the milder oils: it may be taken with great ſafety (duly diluted) to the quantity of ten or twelve drops or more. Nor is its colour at all yellow, unleſs it has been long and careleſsly kept, or diſtilled by too violent a fire: when in perfection, it is limpid and colourleſs, of a pleaſant, moderately warm and pungent taſte, and a very agreeable ſmell, much reſembling that of the ſpice itſelf. The Dutch oil of cloves contains a large quantity of expreſſed oil, as evidently appears upon examining it by diſtillation. This, however, cannot be the addition to which it owes its acrimony. A mean proportion of a reſinous extract of cloves communicates to a large one of oil a deep colour, and a great degree of acrimony.

OLEUM CHAMÆMELI FLORUM.

Roſſ.

Eſſential oil of Chamomile.

An oil of chamomile had formerly a place in our pharmacopœias, made by infuſion of the recent plant and its flowers, in olive oil; and again ſeparating it by preſſure after impregnating it with the active parts of the plant by heat. This, however, was intended only for external application; but the eſſential oil is meant to be uſed internally.

It is a very pungent oil, of a ſtrong not ungrateful ſmell, reſembling that of the flowers: its colour is yellow, with a caſt of greeniſh or brown. It is ſometimes given in the doſe of a few drops, as a carminative, in hyſteric diſorders, and likewiſe as a vermifuge: it may be conveniently made into pills with a crumb of bread.

OLEUM CINNAMOMI CORTICIS.

Roſſ.

Oil of Cinnamon.

This valuable oil is extremely hot and pungent, of a moſt agreeable flavour, like that of the cinnamon itſelf. In cold languid caſes, and debilities of the nervous ſyſtem, it is one of the moſt immediate cordials and reſtoratives. The doſe is one, two, or three drops: which muſt always be carefully diluted by the mediation of ſugar, &c.; for ſo great is the pungency of this oil, that a ſingle drop let fall upon the tongue, undiluted, produces a gangrenous eſchar. In the diſtillation of this oil, a ſmart fire is required; and the low head, with a channel round it recommended for the diſtillation of the leſs volatile oils, is particularly neceſſary for this, which is one of the leaſt volatile, and which is afforded by the ſpice in exceeding ſmall quantity. The diſtilled water retains no ſmall portion of the oil; but this oil being very ponderous, great part of it ſubſides from the water, on ſtanding for two or three weeks in a cool place.

OLEUM SEMINUM FŒNICULI ESSENTIALE.

Roſſ.

Eſſential Oil of Fennel Seeds.

The oil obtained from ſweet fennel ſeeds is much more elegant and agreeable than that of the common fennel. It is one of the mildeſt of theſe preparations: it is nearly of the ſame degree of warmth with that of aniſeeds; to which it is likewiſe ſimilar in flavour, though far more grateful. From two or three drops to ten or twelve of it are given as a carminative, in cold indiſpoſitions of the ſtomach; and in ſome kinds of coughs as an expectorant.

OLEUM DISTILLATUM MACIS.

Roſſ.

Eſſential Oil of Mace.

The eſſential oil of mace is moderately pungent, very volatile, and of a ſtrong aromatic ſmell, like that of the ſpice itſelf. It is thin and limpid, of a pale yellowiſh colour, with a portion of thicker and darker coloured oil at the bottom. This oil taken internally to the extent of a few drops, is celebrated in vomiting, ſingultus, and colic pains; and in the ſame complaints it has alſo been adviſed to be applied externally to the umbilical region. It is, however, but rarely to be met with in the ſhops.

OLEUM MAJORANÆ ESSENTIALE.

Roſſ.

Eſſential Oil of Marjoram.

This oil is very hot and penetrating, in flavour nor near ſo agreeable as the marjoram itſelf; when in perfection, it is of a pale yellow colour; by long keeping, it turns reddiſh: if diſtilled with too great a heat, it riſes of this colour at firſt. It is ſuppoſed by ſome to be particularly ſerviceable in relaxations, obſtructions, and mucous diſcharges of the uterus; the doſe is one or two drops.

OLEUM NUCIS MOSCHATÆ ESSENTIALE.

Roſſ.

Eſſential Oil of Nutmegs.

The eſſential oil of nutmegs poſſeſſes the flavour and aromatic virtues of the ſpice in an eminent degree. It is ſimilar in quality to the oil of mace, but ſomewhat leſs grateful.

OLEUM RUTÆ ESSENTIALE.

Roſſ.

Eſſential Oil of Rue.

The oil of rue has a very acrid taſte, and a penetrating ſmell, reſembling that of the herb, but rather more unpleaſant. It is ſometimes uſed in hyſteric diſorders and as an anthelmintic; and alſo in epilepſies proceeding from a relaxed ſtate of the nerves.

Rue yields its oil very ſparingly. The largeſt quantity is obtained from it when the flowers are ready to fall off, and the ſeeds begin to ſhew themſelves; ſuitable maceration, previous to the diſtillation, is here extremely neceſſary.

OLEUM DISTILLATUM SATUREIÆ.

Roſſ.

Eſſential Oil of Savory.

Savory yields on diſtillation a ſmall quantity of eſſential oil, of great ſubtility and volatility; and it is unqueſtionably an active article, but among us it is not employed in medicine.

OLEUM DISTILLATUM TANACETI.

Roſſ.

Eſſential Oil of Tanſy.

Tanſy yields on diſtillation an oil of a greeniſh colour inclining to yellow. It ſmells ſtrongly of the herb, and poſſeſſes at leaſt its aromatic property in a concentrated ſtate.

OLEUM CERÆ.

Dan.

Oil of Wax.

Melt yellow bees-wax with twice its quantity of ſand, and diſtil in a retort placed in a ſand-furnace. At firſt an acid liquor riſes, and afterwards a thick oil, which ſticks in the neck of the retort, unleſs it be heated by applying live coals. This may be rectified into a thin oil, by diſtilling it ſeveral times, without addition, in a ſand-heat.

Boerhaave directs the wax, cut in pieces, to be put into the retort firſt, ſo as to fill one half of it; when as much ſand may be poured on it as will fill the remaining half. This is a neater, and much leſs troubleſome way, than melting the wax, and mixing it with the ſand before they are put into the retort. The author above mentioned highly commends this oil againſt roughneſs and chaps of the ſkin, and other like purpoſes: the college of Straſburgh ſpeak alſo of it being given internally, and ſay it is a powerful diuretic *(ingens diureticum)* in doſes of from two to four or more drops; but its diſagreeable ſmell has preventing its coming into uſe among us.

OLEUM LIGNI RHODII ESSENTIALE.

Roſſ.

Eſſential Oil of Rhodium.

This oil is extremely odoriferous, and principally employed as a perfume in ſcenting pomatums, and the like. Cuſtom has not as yet received any preparation of this aromatic wood into internal uſe among us.

The number of eſſential oils which have now a place in the London and Edinburgh pharmacopœias, and likewiſe in the foreign ones of modern date, is much leſs conſiderable than formerly; and perhaps thoſe ſtill retained afford a ſufficient variety of the more active and uſeful oils. Moſt of the oils mentioned above particularly thoſe which have a place in the London and Edinburgh pharmacopœias, are prepared by our chemiſts in Britain, and are eaſily procurable in a tolerable degree of perfection: But the oils from the more expenſive ſpices, though ſtill introduced among the preparations in the foreign pharmacopœias, are, when employed among us uſually imported from abroad.

Theſe are frequently ſo much adulterated, that it is not an eaſy matter to meet with ſuch as are at all fit for uſe. Nor are theſe adulterations eaſily diſcoverable. The groſſer abuſes, indeed, may be readily detected: thus, if the oil be mixed with ſpirit of wine, it will turn milky on the addition of water: if with expreſſed oils, rectified ſpirit will diſſolve the eſſential, and leave the other behind; if with oil of turpentine, on dipping a piece of paper in the mixture, and drying it with a gentle heat, the turpentine will be betrayed by its ſmell. But the more ſubtile artiſts have contrived other methods of ſophiſtication, which elude all trials of this kind.

Some have conſidered the ſpecific gravity of oils as a certain criterion of their genuineneſs. This, however, is not to be abſolutely depended on: for the genuine oils, obtained from the ſame ſubjects, often differ in gravity as much as thoſe drawn from different ones. Cinnamon and cloves, whoſe oils uſually ſink in water, yield, if ſlowly and warily diſtilled, an oil of great fragrancy, which is nevertheleſs ſpecifically lighter than the aqueous fluid employed in the diſtillation of it; while, on the other hand, the laſt runnings of ſome of the lighter oils prove ſometimes ſo ponderous as to ſink in water.

As all eſſential oils agree in the general properties of ſolubility in ſpirit of wine, indiſſolubility in water, miſcibility with water by the intervention of certain intermedia, volatility in the heat of boiling water, &c. it is plain that they may be variouſly mixed with each other, or the dearer ſophiſticated with the cheaper, without any poſſibility of diſcovering the abuſe by any trials. And, indeed, it would not be of much advantage to the purchaſer, if he had infallible criteria of the genuineneſs of every individual oil. It is of as much importance that they be *good*, as that they be *genuine;* for genuine oils, from inattentive diſtillation and long and careleſs keeping, are often weaker both in ſmell and taſte than the common ſophiſticated ones.

The ſmell and taſte ſeem to be the only certain teſts of which the nature of the thing will admit. If a bark ſhould have in every reſpect the appearance of good cinnamon, and ſhould be proved indiſputably to be the genuine bark of the cinnamon tree; yet if it want the cinnamon flavour, or has it but in a low degree, we reject it; and the caſe is the ſame with the oil. It is only from uſe and habit, or compariſons with ſpecimens of known quality, that we can judge of the goodneſs, either of the drugs themſelves or of their oils.

Moſt of the eſſential oils indeed, are too hot and pungent to be taſted with ſafety; and the ſmell of the ſubject is ſo much concentrated in them, that a ſmall variation in this reſpect is not eaſily diſtinguiſhed: but we can readily dilute them to any aſſignable degree. A drop of the oil may be diſſolved in ſpirit of wine, or received on a bit of ſugar, and diſſolved by that intermedium in water. The quantity of liquor which it thus impregnates with its flavour, or the degree of flavour which it communicates to a certain determinate quantity, will be the meaſure of the degree of goodneſs of the oil.

We ſhall here ſubjoin the reſult of ſome experiments, ſhewing *the* *quantity of eſſential oil obtained from different vegetables*, reduced into the form of a table. The firſt column contains the names of the reſpective vegetable ſubſtances; the ſecond, the quantity of each which was ſubmitted to the diſtillation; and the third, the quantity of oil obtained. To each article is affixed the author's name from whom the experiment was taken. The different diſtillations of one ſubject, ſeveral of which are inſerted in the table, ſhew how variable the product of oil is, and that the exotic ſpices, as well as our indigenous plants, do not always contain the ſame proportion of this active principle: though it muſt be obſerved, alſo, that part of the differences may probably ariſe from the operation itſelf having been more or leſs carefully performed.

This table was drawn up by Doctor Lewis, and was firſt inſerted in the firſt edition of his diſpenſatory. In conſulting it the reader muſt obſerve that the weights of the ſubſtances diſtilled are averdupoiſe pounds and ounces: the weights of the oils obtained when expreſſed in ounces are alſo averdupoiſe ounces: but the drachms, ſcruples, and grains are Troy weight.

TABLE *of the Quantity of* ESSENTIAL OIL *obtained from different* VEGETABLES.

Agallochum wood	10	lb.	yielded of eſſential oil	4	drachms	*Hoffman.*
Angelica root	1	lb.		1	drachm	*Cartheuſer.*
Aniſeed	1	lb.		4	drachms	*Neuman.*
Aniſeed	3	lb.		1	ounce	*Lewis.*
Aniſeed	4	lb.		1	ounce	*Lewis.*
Aſafœtida	4	oz.		1	drachm	*Neuman.*
Calamus aromaticus	50	lb.		2	ounces	*Hoffman.*
Calamus aromaticus	1	lb.		2	ſcruples	*Neuman.*
Caraway ſeeds	4	lb.		2	ounces	*Lewis.*
Caraway ſeeds	2	lb.		9	drachms	*Lewis.*
Caraway ſeeds	1	cwt.		83	ounces	*Lewis.*
Caroline thiſtle roots	1	lb.		2½	ſcruples	*Neuman.*
Cardamon ſeeds	1	oz.		1	ſcruple	*Neuman.*
Carrot ſeeds	2	lb.		1½	drachm	*Lewis.*
Caſcarilla	1	lb.		1	drachm	*Cartheuſer.*
Chamomile flowers	1	lb.		30	grains	*Cartheuſer.*
Common chamomile flowers	6	lb.		5	drachms	*Lewis.*
Wild chamomile flowers	1	lb.		20	grains	*Cartheuſer.*
Wild chamomile flowers	6	lb.		1½	drachms	*Lewis.*
Chervil leaves, freſh	9	lb.		30	grains	*Neuman.*
Cedar wood	1	lb.		2	drachms	*Margraff.*
Cinnamon	1	lb.		1	drachm	*Sala.*
Cinnamon	1	lb.		2½	ſcruples	*Neuman.*
Cinnamon	4	lb.		7	drachms	*Lemery.*
Cinnamon	1	lb.		2	drachms	*Cartheuſer.*
Cinnamon	1	lb.		8	ſcruples	*Cartheuſer.*
Clary ſeeds	4	lb.		2	drachms	*Lewis.*
Clary in flower, freſh	130	lb.		3½	ounces	*Lewis.*
Cloves	1	lb.		1½	ounce	*Teichmeyer.*
Cloves	1	lb.		2½	ounces	*Cartheuſer.*
Cloves	2	lb.		5	ounces	*Hoffman.*
Copaiba balſam	1	lb.		6	ounces	*Hoffman.*
Copaiba balſam	1	lb.		8	ounces	*Lewis.*
Cummin-ſeed	1	buſh		21	ounces	*Lewis.*
Dictamnus Creticus	1	lb.		30	grains	*Lewis.*
Dill ſeed	4	lb.		2	ounces	*Lewis.*
Elecampane root	2	lb.		3½	ſcruples	*Neuman.*
Elemi	1	lb.		1	ounce	*Neuman.*
Fennel-ſeed, common	2	oz.		1	ſcruple	*Neuman.*
Fennel ſeed, ſweet	1	buſh		18	ounces	*Lewis.*
Galangal root	1	lb.		1	drachm	*Cartheuſer.*
Garlic root, freſh	2	lb.		30	drachms	*Neuman.*
Ginger	1	lb.		1	drachm	*Neuman.*
Horſe radiſh root, freſh	8	oz.		15	grains	*Neuman.*
Hyſſop leaves	2	lb.		1½	drachm	*Neuman.*

Hyſſop

Hyſſop leaves	1	lb.	yielded of eſſential oil.	1½	drachm	*Cartheuſer.*
Hyſſop leaves	1	lb.		2	drachms	*Cartheuſer.*
Hyſſop leaves, freſh	2	cwt.		6	ounces	*Lewis.*
Hyſſop leaves, freſh	10	lb.		3	drachms	*Lewis.*
Hyſſop leaves, freſh	30	lb.		9	drachms	*Lewis.*
Juniper berries	8	lb.		3	ounces	*Hoffman.*
Juniper-berries	1	lb.		3	drachms	*Cartheuſer.*
Lavender in flower, freſh	48	lb.		12	ounces	*Lewis.*
Lavender in flower, freſh	30	lb.		6¾	ounces	*Lewis.*
Lavender in flower, freſh	13½	cwt.		60	ounces	*Lewis.*
Lavender flowers, freſh	2	lb.		4	drachms	*Hoffman.*
Lavender flowers, dried	4	lb.		2	ounces	*Lewis.*
Lavender flowers, dried	2	lb.		1	ounce	*Hoffman.*
Lavender flowers, dried	4	lb.		3	ounces	*Hoffman.*
Broad leaved lavender flowers, dry	4	lb.		1	ounce	*Hoffman.*
	1	lb.		2	drachms	*Cartheuſer.*
Lovage root	1	lb.		1	drachm	*Cartheuſer.*
Mace	1	lb.		5	drachms	*Neuman.*
Mace	1	lb.		6	drachms	*Cartheuſer.*
Marjoram in flower, freſh	81	lb.		3¾	ounces	*Lewis.*
Marjoram in flower, freſh	13½	lb.		3½	drachms	*Lewis.*
Marjoram in flower, freſh	34	lb.		1½	ounce	*Lewis.*
Marjoram leaves, freſh	18½	lb.		4	drachms	*Lewis.*
Marjoram leaves, dried	4	lb.		1	ounce	*Hoffman.*
Maſterwort root	1	lb.		30	grains	*Neuman.*
Milfoil flowers, dried	14	lb.		4	drachms	*Neuman.*
Mint in flower, freſh	6	lb.		4½	drachms	*Neuman.*
Mint leaves, dried	4	lb.		1½	ounce	*Hoffman.*
Peppermint, freſh	4	lb.		3	drachms	*Hoffman.*
Myrrh	1	lb.		2	drachms	*Hoffman.*
Myrrh	1	lb.		3	drachms	*Neuman.*
Nutmegs	1	lb.		1	ounce	*Hoffman.*
Nutmegs	1	lb.		1	ounce	*Geoffroy.*
Nutmegs	1	lb.		4	drachms	*Neuman.*
Nutmegs	1	lb.		6	drachms	*Sala.*
Nutmegs	1	lb.		5	drachms	*Cartheuſer.*
Parſley ſeeds	2	lb.		1	drachm	*Cartheuſer.*
Parſley leaves, freſh	238	lb.		2	ounces	*Cartheuſer.*
Parſnip ſeeds	8	lb.		2	drachms	*Cartheuſer.*
Penny royal in flower, freſh	13	lb.		6	drachms	*Cartheuſer.*
Black pepper	2	lb.		6	drachms	*Cartheuſer.*
Black pepper	1	lb.		2½	drachms	*Neuman.*
Black pepper	1	lb.		4	ſcruples	*Cartheuſer.*
Black pepper	1	lb.		1	drachm	*Heiſter.*
Black pepper	6	lb.		3	drachms	*Geoffroy.*
Pimento	1	oz.		30	grains	*Neuman.*
Rhodium wood	1	lb.		3	drachms	*Neuman.*
Rhodium wood	1	lb.		2	drachms	*Sala.*
Rhodium wood	1	lb.		3	drachms	*Sala.*
Rhodium wood	1	lb.		3	drachms	*Cartheuſer.*

Rhodium

Rhodium wood	1	lb.	yielded of eſſential oil	4	drachms	*Cartheuſer.*
Roſemary in flower	1	cwt.		8	ounces	*Lewis.*
Roſemary leaves	1	lb.		2	drachms	*Sala*
Roſemary leaves	1	lb.		3	drachms	*Sala*
Roſemary leaves	3	lb.		3⅙	drachms	*Neuman.*
Roſemary leaves	1	lb.		1	drachm	*Cartheuſer.*
Roſemary leaves	1	lb.		1½	drachm	*Cartheuſer.*
Roſemary leaves, freſh	70	lb.		5	ounces	*Lewis.*
Roſes	100	lb.		4	drachms	*Tachenius.*
Roſes	100	lb.		1	ounce	*Homberg.*
Roſes	12	lb.		30	grains	*Hoffman.*
Rue	10	lb.		2	drachms	*Hoffman.*
Rue	10	lb.		4	drachms	*Hoffman.*
Rue in flower	4	lb.		1	drachm	*Hoffman.*
Rue in flower	60	lb.		2½	ounces	*Hoffman.*
Rue with the ſeeds	72	lb.		3	ounces	*Hoffman.*
Saffron	1	lb.		1½	drachm	*Vogel.*
Sage leaves	1	lb.		5	ſcruples	*Cartheuſer.*
Sage in flower, freſh	34	lb.		1½	ounce	*Lewis*
Sage of virtue, in flower	27	lb.		6	drachms	*Lewis*
Sage of virtue, in flower	8	lb.		1½	drachm	*Lewis.*
Saſſafras	6	lb.		1¾	ounce	*Hoffman.*
Saſſafras	6	lb.		2	ounces	*Neuman.*
Savin	2	lb.		5	ounces	*Hoffman.*
Saunders, yellow	1	lb.		2	drachms	*Cartheuſer.*
Smallage ſeeds	1	lb.		2⅓	ſcruples	*Neuman.*
Stechas in flower, freſh	5½	lb.		2	drachms	*Lewis.*
Thyme in flower, freſh	2	cwt.		5½	ounces	*Lewis.*
Thyme in flower, dry	3¾	lb.		1½	drachm	*Lewis.*
Lemon thyme in flower, freſh	51	lb.		1¼	ounce	*Lewis.*
Lemon-thyme in flower, freſh	98	lb.		2½	ounces	*Lewis.*
Lemon-thyme, a little dried	104	lb.		3	ounces	*Lewis.*
Wormwood leaves, dry	4	lb.		1	ounce	*Lewis.*
Wormwood leaves, dry	18	lb.		1½	ounce	*Lewis.*
Wormwood leaves, dry	15	lb.		3½	ounces	*Lewis.*
Zedoary	1	lb.		1	drachm	*Neuman.*

CHAP.

CHAP. VII.

SALIA.

SALTS.

IN former parts of this work we have offered ſome general remarks on the nature of ſaline ſubſtances, *ſee* p. 9, 10, 16, 30, *and ſeveral parts of the Materia Medica.* Little therefore remains to be ſaid on this ſubject here. For the ſake of perſpicuity, however, it may not be unacceptable to the reader to give a ſyſtematic arrangement of ſalts.

Salts are either ſimple or compound. The ſimple ſalts are either alkaline or acid. The compound ſalts are formed by the union of an acid either with an alkali, or an earth, or a metal. Theſe compounds, occuring in nature more frequently than the alkalies and acids themſelves, were, by the earlier chemiſts, thought to be ſimple bodies, as nitre, common ſalt, Epſom ſalt, vitirol, &c. When however their compoſition was known, the abſurdity of their uſual names became evident, and the neceſſity of forming new names was an object of great conſequence to the ſyſtematic chemiſt. This was firſt attempted by Bergman. Before his time the compound ſalts had been promiſcuouſly called by ſeveral chemiſts neutral ſalts, or middle ſalts. He divided the compounds ſalts into three kinds; calling thoſe ſalts which were compoſed of an acid and an alkali, *Neutral Salts;* thoſe compoſed of an acid and an earth, *Earthy ſalts;* and thoſe compoſed of an acid and a metal, *Metallic Salts.* The names which he gave to theſe compounds ſalts conſiſted of two words, a ſubſtantive and an adjective: the ſubſtantive was the alkali, earth, or metal; and the adjective was formed from the acid with which the alkali, earth, or metal, was combined: Thus, nitre, which is a compound of the vegetable alkali and nitrous acid, was called *Alkali vegetabile nitratum*, in Engliſh *Nitrated vegetable alkali*; Epſom ſalt, which is a compound of magneſia and vitriolic acid, was called *Magneſia vitriolata, Vitriolated magneſia;* common vitriol, which is a combination of iron with the vitriolic acid, was called *Ferrum vitriolatum; vitriolated iron:* and ſo of the reſt, the name of the compound ſalt conveying a knowledge of its component parts.

The firſt of the following tables exhibits 49 neutral and earthy ſalts according to this beautiful ſyſtem which has been univerſally adopted by ſubſequent ſyſtematic chemiſts: and although the original names uſed by Bergman have been changed by other chemiſts, yet the plan has remained the ſame; as may be ſeen by the ſecond table, which contains the neutral and earthy ſalts mentioned in the Edinburgh pharmacopœia; and by third, which contains thoſe of the London pharmacopœia. The firſt table does not contain all the poſſible compound ſalts, but only thoſe formed by ſeven of the acids with the three alkalies and the four abſorbent earths: The plan is ſo ſimple that any reader of common capacity may extend it at pleaſure; and the reaſon why we have reſtricted it in the manner we have, is becauſe it contains *all* the neutral and earthy ſalts which are mentioned in our pharmacopœias. Bergman's original table, which he exhibited at his Lectures, contained the compound ſalts formed by the union of 25 acids with 3 alkalies, 4 earths, and 15 metals, amounting in all to 550 compound ſalts. Many of theſe compounds are however hitherto unknown, and ſome of them are even impoſſible; but they were put into the table to exhibit the whole plan in one view.

The table is ſo plain as to need little explanation: The acids are placed at the top; the alkalies and earths on the left hand; and the compound ſalts, reſulting from their union, in the reſpective interſections of the different columns.

TABLE I. Compound Salts *according to* Bergmen's *nomenclature*.

	Acidum vitriolicum.	Acidum nitroſum.	Acidum ſalis.	Acidum acetoſum.	Acidum tartareum.	Acidum boracicum.	Acidum phoſphoricum.
Alkali vegetabile.	Alk. vegetab. vitriolatum.	Alk. vegetab. nitratum.	Alk. vegetab. ſalitum.	Alk. vegetab. acetatum.	Alk. vegetab. tartariſatum.	Alk. vegetab. boraxatum.	Alk. vegetab. phoſphoratum.
Alkali minerale.	Alk. miner. vitriolatum.	Alk. miner. nitratum.	Alk. miner. ſalitum.	Alk. miner. acetatum.	Alk. miner. tartariſatum.	Alk. miner. boraxatum.	Alk. miner. phoſphoratum.
Alkali volatile.	Alk. volat. vitriolatum.	Alk. volat. nitratum.	Alk. volat. ſalitum.	Alk. volat. acetatum.	Alk. volat. tartariſatum.	Alk. volat. boraxatum.	Alk. volat. phoſphoratum.
Barytes.	Barytes vitriolata.	Barytes nitrata.	Barytes ſalita.	Barytes acetata.	Barytes tartariſata.	Barytes boraxata.	Barytes phoſphorata.
Calx.	Calx vitriolata.	Calx nitrata.	Calx ſalita.	Calx acetata.	Calx tartariſata.	Calx boraxata.	Calx phoſphorata.
Magneſia.	Magneſia vitriolata.	Magneſia nitrata	Magneſia ſalita.	Magneſia acetata.	Magneſia tartariſata.	Magneſia boraxata.	Magneſia phoſphorata.
Argilla.	Argilla vitriolata.	Argilla nitrata.	Argilla ſalita.	Argilla acetata.	Argilla tartariſata.	Argilla boraxata.	Argilla phoſphorata.

TABLE II. COMPOUND SALTS, *according to the* EDINBURGH PHARMACOPOEIA.

	Acidum vitriolicum.	Acidum nitroſum.	Acidum muriaticum.	Acidum acetoſum.	Acidum tartareum.	Acidum boracicum.	Acidum phoſphoricum.
Lixiva.	Lixiva vitriolata. Lixiva vitriolata ſulphurea.	Nitrum		Lixiva acetata.	Lixiva tartariſata. Cryſtalli tartari.		
Soda.	Soda vitriolata.		Sal marinus.		Soda tartariſata.	Borax.	Soda phoſphorata.
Ammonia.			Sal Ammoniacus.	Aqua ammoniæ acetatæ.			
Calx.							Oſſa ad albidinem cremata.
Magneſia.	Magneſia vitriolata.						
Argilla.	Alumen.						

TABLE III. Compound Salts, *according to the* London Pharmacopoeia.

	Acidum vitriolicum.	Acidum nitroſum.	Acidum muriaticum.	Acidum acetoſum.	Acidum tartareum.	Acidum boracicum.	Acidum phoſphoricum.
Kali.	Kali vitriolatum.	Nitrum.		Kali acetatum.	Cryſtalli tartari. Kali tartariſatum.		
Natron.	Natrum vitriolatum.		Sal muriaticus.		Natron tartariſatum.	Borax.	
Ammonia.			Sal ammoniacus.	Aqua ammoniæ acetatæ.			
Calx.							Cornu cervi uſtum.
Magneſia.	Magneſia vitriolata.						
Argilla.	Alumen.						

Having now exhibited a ſyſtematic arrangement of the ſalts, we proceed to diſcribe the ſeveral ſaline preparations mentioned in the different Pharmacopœias.

ACIDUM VITRIOLICUM DILUTUM.
Lond.
Diluted Vitriolic Acid.

Take of
Vitriolic acid, one ounce by weight;
Diſtilled water, eight ounces by weight;
Mix them by degrees.

ACIDUM VITRIOLICUM DILUTUM, vulgo SPIRITUS VITRIOLI TENUIS.
Edin.
Diluted vitriolic acid, commonly called *weak ſpirit of Vitriol.*

Take of
Vitriolic acid, one part;
Water, ſeven parts.
Mix them.

In the former editions of our pharmacopœias, directions were given for the preparation of the vitriolic acid by the apothecary himſelf, under the heads of *Spiritus et Oleum Vitrioli, Spiritus Sulphuris per campanam*, &c: But as it is now found that all theſe modes are expenſive, and that this acid may be furniſhed at a cheaper rate from the trading chemiſts preparing it on a large ſcale, both colleges have with propriety rejected it from the preparations, and introduced it only into the liſt of the materia medica.

When, however, it is of the degree of concentration there required, it can only be uſed for very few purpoſes in medicine. The moſt ſimple form in which it can be advantageouſly employed internally, is that in which it is merely diluted with water: and it is highly proper that there ſhould be ſome fixed ſtandard in which the acid in this ſtate ſhould be kept. It is, however, much to be regretted, that the London and Edinburgh colleges have not adopted the ſame ſtandard with reſpect to ſtrength: For in the one, the ſtrong acid conſtitutes an eighth, and in the other, only a ninth, of the mixture. The former proportion, which is that of the Edinburgh college, is preferable, as it gives exactly a drachm of acid to the ounce: but the dilution by means of diſtilled-water, which is directed by the London, is preferable to ſpring-water; which, even in its pureſt ſtate, is rarely free from impregnations in part affecting the acid.

The acid of vitriol is the moſt ponderous of all the liquids we are acquainted with, and the moſt powerful of the acids. If any other acid be united with a fixt alkaline ſalt or earth, on the addition of the vitriolic, ſuch acid will be diſlodged, and ariſe on applying a moderate heat, leaving the vitriolic in poſſeſſion of the alkali. Strong vitriolic acid mixt with water, inſtantly creates great heat, inſomuch that glaſs veſſels are apt to crack from the mixture, unleſs it be very ſlowly performed: expoſed to the air, it imbibes moiſture, and ſoon acquires a remarkable increaſe of weight. In medicine, it is employed chiefly as ſubſervient to other preparations: it is alſo frequently mixed with juleps, in ſuch a quantity as will be ſufficient to give the liquor an agreeable tartneſs, and it then is a cooling antiſeptic, and a ſtomachic; but its medical properties have already been mentioned under the article Acidum *Vitriolicum* in the Materia Medica.

ACIDUM NITROSUM.
Lond.
Nitrous acid.

Take of
  Purified nitre, ſixty ounces;
  Vitriolic acid, by weight, twenty-nine ounces,
Mix and diſtil.

The ſpecific gravity of this acid, is to that of diſtilled water, as 1,550 to 1,000.

ACIDUM NITROSUM, vulgo SPIRITUS NITRI.
Edin.
Nitrous acid, commonly called *ſpirit of nitre.*

Take of
  Pureſt nitre, bruiſed, two pounds;
  Vitriolic acid, one pound.
Having put the nitre into a glaſs retort, pour on it the acid; then diſtil in a ſand-heat, gradually increaſing the fire, till the ſand-pot becomes of a dull red colour.
The ſpecific gravity of it, to that of water, ought to be as 1550 to 1000.

Here the vitriolic acid expels the nitrous, in red corroſive vapours, which begin to iſſue immediately on mixture; and which the operator ought cautiouſly to avoid. A pound of acid of vitriol is ſufficient to expel all the acid from about two pounds of nitre, not from more: ſome direct equal parts of the two. The ſpirit, in either caſe, is in quality the ſame; the difference, in this reſpect, affecting only the reſiduum. If two parts of nitre be taken to one of vitriolic acid, the remaining alkaline baſis of the nitre is completely ſaturated with the vitriolic acid; and the reſult is a neutral ſalt, the ſame with vitriolated tartar, as we ſhall ſee hereafter. If more nitre be uſed, a part of the nitre, in ſubſtance, will remain blended with this neutral ſalt: if leſs nitre, it cannot afford alkali enough to ſaturate the vitriolic acid, and the reſiduum will not be a neutral ſalt, but a very acid one.

The nitrous acid is next in ſtrength to the vitriolic, and diſlodges all others from alkaline ſalts or earths. It differs from all the other acids in deflagrating with inflammable matters: The chief uſe of this acid is as a menſtruum for certain minerals, and as the baſis of ſome particular preparations to be mentioned hereafter. It has been given likewiſe, diluted with any convenient vehicle, as a diuretic, in doſes of from ten to fifty drops.

ACIDUM NITROSUM DILUTUM.
Lond. Edin.
Diluted nitrous acid.

Take of
  Nitrous acid;
  Diſtilled water, each equal weights.
Mix them, taking care to avoid the noxious vapours.

In the old editions both of the London and Edinburgh pharmacopœias, directions were given for the preparation of *aquafortis ſimplex* and *duplex*; but theſe were no more than different forms of preparing an impure nitrous acid, unfit for medical purpoſes. They are therefore, with propriety, ſuperſeded by the more ſimple formulæ of *acidum nitroſum*, and *aci-*

dum nitroſum dilutum mentioned above. In making the diluted acid, diſtilled water is preferable to common water.

The vapour ſeparated during the mixing of nitrous acid and water, is the permanently elaſtic fluid called *nitrous air*, which is deleterious to animal life.

ACIDUM MURIATICUM.
Lond.
Muriatic acid.

Take of
Dry ſea-ſalt, ten pounds;
Vitriolic acid, by weight ſix pounds;
Water, by weight five pounds.

Add the vitriolic acid, firſt mixed by degrees with the water, to the ſalt; then diſtil.

The ſpecific gravity of this acid is to that of diſtilled water, as 1,170 to 1,000.

ACIDUM MURIATICUM, vulgo SPIRITUS SALIS MARINI.
Edin.
Muriatic acid, commonly called *Spirit of ſea-ſalt.*

Take of
Sea-ſalt, two pounds;
Vitriolic acid,
Water, each one pound.

Let the ſalt be firſt put into a pot, and brought to a red heat, that the oily impurities may be conſumed; then put it into the retort. Next mix the acid with the water, and when the mixture has cooled, pour it upon the ſalt. Laſtly, diſtil in a ſand bath with a middling heat, as long as any acid comes over.

The ſpecific gravity of this acid is to that of water as 1,170 to 1000.

The muriatic acid ariſes, not in red fumes like the nitrous, but in white ones. The addition of water is more neceſſary here than in the foregoing proceſs; the vapours being incondenſable without ſome adventitious humidity. The acid of vitriol is moſt conveniently mixed with the water in an earthen or ſtone-ware veſſel: for unleſs the mixture be made exceedingly ſlowly, it grows ſo hot as to endanger breaking a glaſs one.

This is the weakeſt of the mineral acids, but ſtronger than any of the vegetable: It requires a greater fire to diſtil it than that of nitre, yet it is more readily diſſipated by the action of the air. It is uſed chiefly as a menſtruum for the making of other preparations; ſometimes, likewiſe, it is given, properly diluted, as an antiphlogiſtic, aperient, and diuretic, in doſes of from ten to ſixty or ſeventy drops.

ACETUM DISTILLATUM.
Lond.
Diſtilled vinegar.

Take of
Vinegar, five pints.

Diſtill with a gentle fire, in glaſs veſſels, ſo long as the drops fall free from empyreuma.

Edin.

Let eight pounds of vinegar be diſtilled in glaſs veſſels with a gentle heat. Let the two firſt pounds that come over be thrown away, as containing too much water; let the four pounds next following be reſerved as the diſtilled vinegar. What remains is a ſtill ſtronger acid, but being too much burnt is unfit for uſe.

This proceſs may be performed either in a common ſtill or in a retort.

tort. The better kinds of wine-vinegar ſhould be uſed: thoſe prepared from malt liquors, however fine and clear they may ſeem to be, contain a large quantity of a viſcous ſubſtance, as appears from the ſlimyneſs and ropyneſs to which they are very much ſubject: this not only hinders the acid parts from riſing freely, but is apt to make the vinegar boil over into the recipient, and at the ſame time diſpoſes it to receive a diſagreeable impreſſion from the fire. Indeed, with the beſt kind of vinegar, if the diſtillation be carried on to any great length, it is extremely difficult to avoid an empyreuma. The beſt method of preventing this inconvenience is, if a retort be uſed, to place the ſand but a little way up its ſides, and when ſomewhat more than half the liquor is come over, to pour on the remainder a quantity of freſh vinegar equal to the liquor drawn off. This may be repeated three or four times; the vinegar ſupplied at each time being previouſly heated. The addition of cold liquor would not only prolong the operation, but alſo endanger the breaking of the retort. If the common ſtill be employed, it ſhould likewiſe be occaſionally ſupplied with freſh vinegar in proportion as the ſpirit runs off; and this continued until the proceſs can be conveniently carried no farther: The diſtilled ſpirit muſt be rectified by a ſecond diſtillation in a retort or glaſs alembic; for although the head and receiver be of glaſs or ſtone ware, the acid will contract a metallic taint from the pewter worm.

The reſiduum of this proceſs is commonly thrown away as uſeleſs, although, if ſkilfully managed, it might be made to turn to good account; the moſt acid parts of the vinegar ſtill remaining in it. Mixed with about three times its weight of fine dry ſand, and committed to diſtillation in a retort, with a well-regulated fire, it yields an exceeding ſtrong acid ſpirit, together with an empyreumatic oil, which taints the ſpirit with a diſagreeable odour. This acid is nevertheleſs, without any rectification, better for ſome purpoſes (as a little of it will go a great way) than the pure ſpirit; particularly for making the ſal diureticus or kali acetatum of the London college; for there the oily matter, on which its ill flavour depends is burnt out by the calcination.

The ſpirit of vinegar is a purer and ſtronger acid than vinegar itſelf, with which it agrees in other reſpects. The medical virtues of theſe liquors may be ſeen in the Materia Medica, under the article Acetum, page 83. Their principal difference from the mineral acids conſiſts in their being milder, leſs ſtimulating, leſs diſpoſed to affect the kidneys and promote the urinary ſecretions, or to coagulate the animal juices. The matter left after the diſtillation in glaſs veſſels, though not uſed internally, would doubtleſs prove a ſerviceable detergent.

ACETUM CONCENTRATUM.

Suec.

Concentrated Vinegar.

Let white wine vinegar be frozen in a wooden veſſel in cold winter weather; and let the fluid ſeparated from the ice be preſerved for uſe. It may be conſidered as ſufficiently ſtrong, if one drachm of it be capable of ſaturating a ſcruple of the fixed vegetable alkali.

This is a very eaſy mode for obtaining the acid of vinegar in a concentrated ſtate, and freed from a conſiderable portion of its water. But at the ſame time we do not thus obtain the acid ſo much concentrated, as by the following proceſs.

ACIDUM ACETOSUM.

Lond.

Acetous acid.

Take of

Verdegris, in coarſe powder, two pounds.

Dry it perfectly by means of a water-bath ſaturated with ſea-ſalt; then diſtil it in a ſand bath, and diſtil the liquor a ſecond time.

Its ſpecific gravity is to that of diſtilled water as 1,050 to 1,000.

By this proceſs, it may be readily concluded that we obtain the acetous acid in its moſt concentrated ſtate, and with the leaſt admixture of water; and after the re-diſtillation, it may alſo be ſuppoſed to be free from all mixture of the copper. But the internal uſe of it has been objected to by ſome, on the ſuppoſition that it may ſtill retain a portion of the metal: and hitherto it has been but little employed.

We may however procure the acetous acid equally ſtrong, as this obtained from verdegris, by uſing acetated ſoda in a very dry ſtate; and the ſeparation of the acid will be promoted by the addition of ſome vitriolic acid.

ACIDUM TARTARI CRYSTALLISATUM.

Suec.

Cryſtalliſed acid of Tartar.

Take of

Prepared chalk, frequently waſhed with warm water, two pounds;

Spring water, thirty two pounds.

After ſlight boiling, by degrees add of cream of tartar ſeven pounds, or as much as is ſufficient for ſaturation. Removing the veſſel from the fire, let it ſtand for half an hour, then cautiouſly pour off the clear liquor into a glaſs veſſel. Waſh the reſiduum or tartareous ſelenites by pouring water on it three or four times. To this reſiduum afterwards add of weak vitriolic acid (conſiſting of one part of ſtrong acid, and eight of water,) fifteen pounds, let it be digeſted for a day, frequently ſtirring it with a wooden ſpatula. After this pour the acid liquor into a glaſs veſſel: But with the reſiduum mix ſixteen pounds of ſpring water: Strain it through paper, and again pour water on the reſiduum till it become inſipid. Let the acid liquors mixed together in a glaſs veſſel be boiled to the conſiſtence of a thin ſyrup; which being ſtrained, muſt be put into earthen veſſels, and evaporated in a ſand heat, till the acid concretes into ſlender cryſtals; obſerving to break, every two hours, the ſaline pellicle formed on the ſurface of the liquor, during the evaporation. The cryſtals being at length fully dried muſt be kept in a well ſtopt glaſs phial.

If before cryſtalliſation a little of the inſpiſſated acid liquor be diluted with four times its quantity of pure water, and a few drops of acetated lead be put into it, a white ſediment will immediately be depoſited. If a few drops of the diluted nitrous acid be then added, the mixture will become limpid if the tartareous liquor be pure and entirely free from the vitriolic acid; but if it be not, it will remain white. This fault, however, may be corrected, if the acid of tartar be diluted with ſix pounds of water, and a few ounces of the tartareous ſelenite be added to it. After this it may be digeſted, ſtrained, and cryſtalliſed.

By this proceſs, the acid of tartar may be obtained in a pure ſolid form. It would, however, be an improvement of the proceſs, if quicklime were employed in place of chalk. For Dr. Black has found that quicklime abſorbs the whole of the tartareous acid, and then the ſupernatant liquor contains only the alkaline part of the tartar; whereas when chalk is employed, it contains a ſolution of ſoluble tartar, the chalk taking up only the ſuperabundant acid. By this method then a greater quantity of acid might be obtained from the tartar. The tartareous acid has not hitherto been much employed in its pure ſtate. But beſides being uſeful for ſome purpoſes in medicine, for which the cream of tartar is at preſent in uſe, and where that ſuperſaturated neutral may be leſs proper, there is alſo reaſon to ſuppoſe, that from the employment of the pure acid, we ſhould arrive at more certainty in the preparation of the *Antimonium tartariſatum*, or tartar emetic, than by employing the cream of tartar, the proportion of acid in which varies very much from different circumſtances. The pure acid of tartar might alſo probably be employed with advantage for bringing other metallic ſubſtances to a ſaline ſtate.

ACIDUM TARTARI DISTILLATUM.

Suec.

Diſtilled Acid of Tartar.

Let pounded crude tartar be put into a tubulated earthen or iron retort till it fills about two thirds of it, and let diſtillation be performed by gradually increaſing the heat. Into the recipient, which ſhould be very large, an acid liquor will paſs over together with the oil; which being ſeparated from the oil, muſt again be diſtilled from a glaſs retort.

If the reſiduum contained in the earthen or iron retort be diluted with water, ſtrained through paper, and boiled to dryneſs, it gives what is called the alkali of tartar. If this do not appear white, it may be made ſo by burning, ſolution, ſtraining, and evaporation.

This is another mode of obtaining both the acid and alkali of tartar in a pretty pure ſtate, and as well as the former, it is not unworthy of being adopted into our pharmacopœias.

AQUA AERIS FIXI.

Roſſ.

Aerated water.

Let ſpring water be ſaturated with the fixed air, or aerial acid, ariſing from a ſolution of chalk in vitriolic acid, or in any ſimilar acid. Water may alſo be impregnated by the fixed air riſing from fermenting liquors.

The aerial acid, on which we have already had occaſion to make ſome obſervations, (vide page 32), beſides the great influence which it has in affecting different ſaline bodies into whoſe compoſition it enters, is alſo frequently employed in medicine, with a view to its action on the human body. There is no form under which it is at preſent more frequently had recourſe to than that of aerated or mephitic water, as it is called; and although not yet received either into the London or Edinburgh pharmacopœias, it is daily employed in practice, and is juſtly intitled to a place among the ſaline preparations.

The moſt convenient mode of impregnating water with the aerial acid, and thus having it in our power to exhibit that acid as it were in a diluted ſtate, is by means of a well known and ſufficiently ſimple apparatus, contrived by Dr Nooth. Such a machine ought to be kept in every ſhop for the more ready preparation of this fluid.

Water properly impregnated with the aerial acid, has an agreeable acidulous taſte. It is often employed with great advantage in the way of common drink, by thoſe who are ſubject to ſtomach complaints, and by calculous patients. But, beſides this, it furniſhes an excellent vehicle for the exhibition of many other medicines.

Beſides the ſimple aerated water, the Pharmacopœia Roſſica contains alſo an *Aqua aeris fixi martialis*, or ferruginous aerated water. This is prepared by ſuſpending iron wires in ſimple aerated water till the water be fully ſaturated with the metal.

AQUA ALKALINA AERATA.

Aerated Alkaline Water.

Let a ſolution of two ounces of vegetable alkali, in a gallon of water be ſaturated with fixed air.

This aerated alkaline water has been found very ſerviceable in calculous and gouty caſes. It may be given in the quantity of half a pint, once, twice, or thrice a day; and if it offend the ſtomach, a teaſpoonful, but not more, of ſpirituous cinnamon water may be added to each doſe.

FLORES BENZOES.

Lond.

Flowers of Benzoine.

Take of

Benzoine, in powder, one pound,

Put it into an earthen pot, placed in ſand; and, with a ſlow fire, ſublime the flowers into a paper cone fitted to the pot.

If the flowers be of a yellow colour, mix them with white clay, and ſublime them a ſecond time.

ACIDUM BENZOINICUM, vulgo FLORES BENZOINI.

Edin.

Benzoinic acid, commonly called *flowers of Benzoine.*

Put any quantity of powdered benzoine into an earthen pot, to which, after fitting it with a large conical paper cap, apply a gentle heat that the flowers may ſublime. If the flowers be impregnated with oil, let them be purified by ſolution in warm water and cryſtalliſation.

Benzoine, expoſed in a retort to a gentle fire, melts and ſends up into the neck white, ſhining cryſtalline flowers, which are followed by an oily ſubſtance. On raſing the heat a little (a recipient being applied to the neck of the retort) a thin yellowiſh oil comes over, intermixed with an acid liquor, and afterwards a thick butyraceous ſubſtance: this laſt, liquefied in boiling water, gives out to it a conſiderable quantity of ſaline matter (ſeparable by filtration and proper exhalation), which appears in all reſpects ſimilar to the flowers. The whole quantity of flowers which benzoine is capable of yielding, cannot therefore be obtained by the above proceſſes. The greateſt part of the flowers ariſe with a leſs degree of heat than what is neceſſary to elevate the oil; but if the operation be haſtily conducted, or if the fire be not exceedingly gentle, the oil will ariſe along with the flowers, and render them foul. Hence in the way of trade, it is extremely difficult to prepare them of the requiſite whiteneſs and purity; the heat which becomes neceſſary, when large quantities of the benzoin are employed, being ſo great as to force over ſome of the oil along with them.

Beſides being inſufficient for obtaining the flowers in perfection, theſe operations are expenſive, requiring a large apparatus and much attendance. Hence the following proceſs is preferable.

SAL BENZOES.

Suec.

Salt of Benzoine.

Take of
Benzoine in fine powder,
Quicklime powdered, each half a pound;
Water, four pounds.

Boil them gently for a quarter of an hour, and filter the liquor while warm through paper. Add to the reſiduum four pounds more of water, boil and filter this liquor as the former. Mix theſe and boil them in a tin veſſel down to two pounds. When cold pour it into a glaſs veſſel, and drop into it ſome muriatic acid as long as any precipitate is formed. After ſtanding a while pour off the clear liquor, waſh the precipitate with cold water, and dry it on filtering paper.

This eaſy and cheap way of obtaining the flowers of benzoine is the invention of Mr Scheele: The ſalt produced by it is not, like that produced by ſublimation, in a cryſtalline form; but it may eaſily be reduced to that form by diſſolving it in about four ounces of water with gently boiling, ſtraining the liquor while hot into a glaſs veſſel previouſly heated, and ſetting it by to cryſtalliſe; when the cryſtals are formed pour off the ſolution from above them, and by repeated gentle evaporations and cryſtalliſations ſeparate all the ſalt. As flowers of benzoine however are, on account of their lightneſs, not eaſily pulveriſed, it may be beſt to keep them in the form of a precipitate, which is the fineſt powder. To this conſideration may be added, that a portion of the ſalt muſt conſequently be loſt by the repeated cryſtalliſations.

Theſe flowers when made in perfection, have an agreeable taſte and fragrant ſmell. They totally diſſolve in ſpirit of wine; and likewiſe, by the aſſiſtance of heat, in water. By the mediation of ſugar they remain ſuſpended in cold water, and thus form an elegant balſamic ſyrup. Some have held them in great eſteem as pectoral and ſudorific, in the doſe of half a ſcruple or more: but at preſent they are rarely uſed, on account of the offenſive oil with which, as uſually prepared, they are tainted.

They enter the compoſition of the paregoric elixir, or *tinctura opii camphorata*, as it is now called.

LIXIVA E TARTARO, vulgo SAL TARTARI.

Edinb.

Lixive of tartar, commonly called *Salt of tartar*.

Take of

Tartar, what quantity you pleaſe.

Roll it up in a piece of moiſt bibulous paper, or put it into a crucible, and burn it to a coal, next, having beat this coal, calcine it in an open crucible with a moderate heat, taking care that it do not melt, and continue the calcination till the coal becomes of a white, or at leaſt of an aſh colour. Then diſſolve it in warm water; ſtrain the liquor through a cloth, and evaporate it in a clean iron veſſel; diligently ſtirring it towards the end of the proceſs with an iron ſpatula, to prevent it from ſticking to the bottom of the veſſel. A very white ſalt will remain, which is to be left a little longer on the fire, till the bottom of the veſſel becomes almoſt red. Laſtly, when the ſalt is grown cold, let it be put up in glaſs veſſels well ſtopt.

Native tartar is a ſaline ſubſtance compounded of an acid, of a fixed alkali, and of oily, viſcous, and colouring matter. The purpoſe of the above proceſs is, to free it from every other matter but the fixed alkali. From the miſtaken notion, that tartar was eſſentially an acid mixed only with impurities, it has been generally ſuppoſed that the effect of this operation was the converſion of an acid into an alkali by means of heat. But ſince Mr Scheele has diſcovered that the proper matter of tartar, freed from the oily and colouring parts, is really a ſalt compound of an acid and fixt vegetable alkali, we have no farther need of ſuch an obſcure theory. The acid of the tartar by this proceſs is diſſipated by means of the heat; and the oily, viſcous, and colouring matters, are partly diſſipated, and partly brought to the ſtate of inſoluble earthy matter, eaſily ſeparable by the future lixiviation from the alkali. But by the laſt of theſe proceſſes, ſomething farther is carried on than the ſeparation of the more palpable foreign matters. By allowing the ſalt, freed from the water of the lixivium, to remain on the fire till the bottom of the veſſel become almoſt red, an oily matter that may ſtill be preſent ſeems to be decompoſed by the action of the heat. Beſides the complete diſcharge of the above principles, the remaining fixed alkali alſo ſuffers a conſiderable loſs of its fixed air, or aerial acid: on this account it is ſomewhat cauſtic, conſiderably deliqueſcent, and in proportion to its poſſeſſing theſe properties more or leſs, it more or leſs nearly approaches to the ſtate of pure alkali. It is not, however, ſo effectually deprived of fixed air as to be ſufficiently cauſtic, for a number of purpoſes. Where cauſticity is not required, the ſalt thus purified is abundantly fit for moſt pharmaceutical purpoſes, but as native tartar generally contains ſmall portions of neutral ſalts beſides the foreign matters already noticed, it is neceſſary if we wiſh to have a very pure alkali for nice operations, to employ cryſtalliſation, and other means beſide the proceſs here directed.

The white and red ſorts of tartar are equally fit for the purpoſe of making fixt alkaline ſalt; the only difference is, that the white affords a ſomewhat larger quantity than the other; from ſixteen ounces of this ſort, upwards of four ounces of fixt alkaline ſalt may be obtained. The uſe of the paper is to prevent the ſmaller pieces of the tartar from dropping down into the aſh hole, through the interſtices of the coals, upon firſt injecting it into the furnace.

The calcination of the ſalt (if the tartar was ſufficiently burnt at firſt) does not increaſe its ſtrength ſo much as is ſuppoſed: nor is the greeniſh or blue colour any certain mark either of its ſtrength, or of its having been, as was formerly ſuppoſed, long expoſed to a vehement fire: for if the crucible be perfectly clean, cloſe covered, and has ſtood the fire without cracking, the ſalt will turn out white, though kept melted and reverberating ever ſo long; while, on the other hand, a ſlight crack happening in the crucible, or a ſpark of a coal falling in, will in a few minutes give the ſalt the colour admired. The colour in reality, is a mark rather of its containing ſome inflammable matter, than of its ſtrength.

The vegetable alkali prepared from tartar has now no place in the London Pharmacopœia, or at leaſt it is included under the following article.

KALI PRÆPARATUM.
Lond.
Prepared Kali.

Take of
Pot-aſh, two pounds;
Boiling diſtilled water, three pints.
Diſſolve and filtre through paper: evaporate the liquor till a pellicle appears on the ſurface; then ſet it aſide for 12 hours that the neutral ſalts may cryſtallize: after which pour out the liquor, and boil away the whole of the water, conſtantly ſtirring, leſt any ſalt ſhould adhere to the pot.
In like manner is purified impure kali from the aſhes of any kind of vegetable.
The ſame ſalt may be prepared from tartar burnt till it becomes of an aſh colour.

LIXIVA PURIFICATA, vulgo SAL ALKALINUS FIXUS VEGETABILIS PURIFICATUS.
Edinb.
Purified lixive, commonly called *purified fixed vegetable alkaline ſalt.*

Let the fixed alkaline ſalt, called in Engliſh *pearl-aſhes*, be put into a crucible, and brought to a ſomewhat red heat, that the oily impurities, if there be any, may be conſumed: then having powdered it, agitate it with an equal weight of water that they may be well mixed. After the feces have ſubſided, pour the ley into a very clean iron pot, and boil to dryneſs, ſtirring the ſalt towards the end of the proceſs, to prevent its ſticking to the veſſel.

If this ſalt has been rightly purified, though it be very dry it may be diſſolved into a liquor void of colour or ſmell, by rubbing it with an equal weight of water.

The potaſh uſed in commerce is an alkali mixed with a conſiderable quantity of remaining charcoal, ſulphur, vitriolated tartar and oily matter. In large manufactures, the alkaline part is indeed conſiderably freed from impurities by mixing the aſhes with water, evaporating the clear ley, and burning the reſiduum in an oven; but this proceſs, beſides being inſufficient for the complete ſeparation of the impurities, ſuperadds a quantity of ſtony matter, giving to the alkali the *pearl* appearance (whence its name), and rendering it altogether unfit for pharmaceutical purpoſes. By the proceſſes here directed, the alkali is effectually freed from all theſe heterogeneous matters, excepting perhaps a ſmall proportion of vitriolated tartar, or other neutral ſalts, which may very generally be neglected.

The purified vegetable alkali, has been known in our pharmacopœias under the different names of *ſal abſinthii*, *ſal tartari*, &c. But all theſe being really the ſame, the terms as leading to confuſion and error, have been with juſtice expunged; and it has been a deſideratum to diſcover ſome ſhort name equally applicable to the whole. This is at length accompliſhed by Dr Black who adopts the ſubſtantive *Lixiva*, which is moſt probably the root of the adjective *Lixivius* uſed by Pliny. To the name *Kali* employed by the London college there are ſeveral objections. Beſides the inconvenience which ariſes from its being an indeclinable word, the foſſil alkali is equally entitled to the ſame appellation; and as a conſiderable portion of the foſſil alkali is prepared from burning a vegetable growing on the ſea coaſts, which has the name of *kali* (the Kali ſpinoſum of Linné) ſome apparent contradiction and ambiguity may thence ariſe.

The purified vegetable alkali is frequently employed in medicine, in conjunction with other articles: particularly for the formation of ſaline neutral draughts and mixtures: But it is uſed alſo by itſelf in doſes of from three or four grains to fifteen or twenty; and it frequently operates as a powerful diuretic, particularly when aided by proper dilution and a warm regimen.

AQUA KALI PRÆPARATI.

Lond.

Water of prepared Kali.

Take of

Prepared kali, one pound.

Set it by in a moiſt place till it be diſſolved, and then ſtrain it.

This article had a place in former editions of our pharmacopœias under the titles of *lixivium tartari*, *liquamen ſalis tartari*, *oleum tartari per deliquium*, &c. It is however, to be conſidered as a mere watery ſolution of the mild vegetable alkali formed by its attracting moiſture from the air; and therefore it is with propriety ſtyled *Aqua*.

The ſolutions of fixt alkaline ſalts, made by expoſing them to a moiſt air, are generally conſidered as being purer than thoſe made by applying water directly: for though the ſalt be repeatedly diſſolved in water, filtered, and exſiccated; yet on being liquefied by the humidity of the air, it will ſtill depoſite a portion of earthy matter: but it muſt be obſerved, that the exſiccated ſalt leaves always an earthy matter on being diſſolved in water, as well as on being deliquated in the air. Whether it leaves more in the one way than in the other, is not determined with preciſion. The deliquated lixivium is ſaid to contain nearly one part of alkaline ſalt to three of an aqueous fluid. It is indifferent, with regard to the lixivium itſelf, whether the white aſhes of tartar, or the ſalt extracted from them, be uſed; but as the aſhes leave a much greater quantity of earth, the ſeparation of the ley proves more troubleſome.

The aqua kali of the preſent edition of the London pharmacopœia, then, may be conſidered as an improvement of the lixivium tartari of their former edition. But the Edinburgh college conſidering this ſolution as being in no reſpect different from that made by pure water, have rejected this preparation from their pharmacopœia.

AQUA KALI PURI.
Lond.
Water of pure kali.

Take of
Prepared kali, four pounds;
Quick lime, ſix pounds;
Diſtilled water, four gallons.

Put four pints of water to the lime, and let them ſtand together for an hour; after which, add the kali and the reſt of the water; then boil for a quarter of an hour; ſuffer the liquor to cool, and ſtrain it. A pint of this liquor ought to weigh ſixteen ounces. If the liquor effervesces with any acid, add more lime, and boil the liquor for five minutes, after which ſtrain it.

A preparation ſimilar to this had a place in the former edition of the London Pharmacopœia, under the title of *lixivium ſaponarium.* Quicklime, by depriving the mild alkali of its aerial acid, renders it cauſtic: hence this ley is much more acrimonious, and acts more powerfully as a menſtruum of oils, fats, &c. than a ſolution of the mild fixed alkali does. The lime ſhould be uſed freſh from the kiln; by long keeping even in cloſe veſſels, it loſes its ſtrength: ſuch ſhould be choſen as is thoroughly burnt or calcined, which may be known by its comparative lightneſs.

All the inſtruments employed in this proceſs, ſhould be either of wood, earthen ware, or glaſs: the common metallic ones would be corroded by the ley, ſo as either to diſcolour it or communicate diſagreeable qualities to it. If it ſhould be needful to filtre or ſtrain the liquor, care muſt be taken that the filtre or ſtrainer be of vegetable matter: woollen, ſilk, and that ſort of filtering paper which is made of animal ſubſtances, are quickly corroded and diſſolved by it.

The liquor is moſt conveniently weighed in a narrow-necked glaſs bottle, of ſuch a ſize, that the meaſure of a wine pint may ariſe ſome height into its neck; the place to which it reaches being marked with a diamond. A pint of the common leys of our ſoapmakers weighs more than ſixteen ounces: it has been found that their ſoap-ley will be reduced to the ſtandard here propoſed, by mixing it with ſomething leſs than an equal meaſure of water.

AQUA LIXIVIA CAUSTICA, vulgo LIXIVIUM CAUSTICUM.

Edinb.

Cauſtic ley.

Take of

Freſh burnt quicklime, eight ounces;

Purified Lixive, ſix ounces.

Throw the quicklime into an iron or earthen veſſel, with twenty eight ounces of warm water. The ebullition and extinction of the lime being perfectly finiſhed, inſtantly add the alkaline ſalt; and having thoroughly mixed them, cover the veſſel till it be cool. Stir the cooled matter, and pour out the whole into a glaſs funnel, whoſe throat muſt be ſtopt up with a piece of clean rag. Let the upper mouth of the funnel be covered, while the tube of it is inſerted into a glaſs veſſel, ſo that the ley may gradually drop through the rag into that veſſel. When it firſt gives over dropping, pour into the funnel ſome ounces of water; but cautiouſly, ſo that the water may ſwim above the matter. The ley will again begin to drop, and the affuſion of water is to be repeated in the ſame manner, until three pounds have dropped, which takes up the ſpace of two or three days; then agitating the ſuperior and inferior parts of the ley togethe, mix them, and put them up in a well ſtopt phial.

If the ley be rightly prepared, it will be void of colour or ſmell; nor will it raiſe an efferveſcence with acids, except, perhaps, a very ſlight one. Colour and odour denote the ſalt not ſufficiently calcined; and efferveſcence, that the quicklime has not been good.

The reaſons and propriety of the different ſteps in the above proceſs will be beſt underſtood by ſtudying the theory on which it is founded. The principle of mildneſs in all alkaline ſalts, whether fixt or volatile, vegetable or foſſil, is fixed air, or the aerial acid: But as quicklime has a greater attraction for fixed air than any of theſe ſalts, ſo if this ſubſtance be preſented to any of them, they are deprived of their fixed air, and become cauſtic. This is what happens in the above proceſſes. The propriety of cloſely ſhutting the veſſels through almoſt every ſtep of the operation, is ſufficiently obvious; viz. to prevent the abſorption of fixed air from the atmoſphere, which might defeat our intentions. When only a piece of cloth is put into the throat of the funnel, the operation is much more tedious, becauſe the pores of the cloth are ſoon blocked up with the wet powdery matter. To prevent this, it may be convenient to place below the cloth a piece of fine wire-work; but as metallic matters are apt to be corroded, the method uſed by Dr Black is the moſt eligible. The Doctor firſt drops a rugged ſtone into the tube of the funnel, in a certain place of which it forms itſelf a firm bed, while the inequalities on its ſurface afford interſtices of ſufficient ſize for the paſſage of the filtring liquor. On the upper ſurface of this ſtone he puts a thin layer of lint or clean tow; immediately above this, but not in contact with it, he drops a ſtone ſimilar to the former, and of a ſize proportioned to the ſwell in the upper part of the tube of the funnel. The interſtices between this ſecond ſtone and the funnel are filled up with ſtones of a leſs dimenſion, and the gradation uniformly continued till pretty ſmall ſand is employed. Finally, this is covered with a layer of coarſer ſand and ſmall ſtones to ſuſtain the weight of the matter, and to prevent its being inviſcated in the minute interſtices of the fine ſand. The throat of the funnel being thus built up, the ſtony fabric is to be freed of clay and other adhering impurities, by making clean water paſs through it till the water comes clear and tranſparent from the extremity of the funnel. It is obvious, that in this contrivance the author has, as uſual, copied nature in the means ſhe employs to depurate watery matters in the bowels of the earth; and it might be uſefully applied for the filtration of various other fluids.

It is a very neceſſary caution to pour the water gently into the funnel; for if it be thrown in a forcible ſtream, a quantity of the powdery matter will be waſhed down, and render all our previous labour uſeleſs. That part of the ley holding the greateſt quantity of ſalt in ſolution, will no doubt be heavieſt, and will conſequently ſink loweſt in the veſſel: the agitation of the ley is therefore neceſſary, in order to procure a ſolution of uniform ſtrength through all its parts. If the ſalt has been previouſly freed of oily and other inflammable matters, this ley will be colourleſs and void of ſmell. If the quicklime has been ſo effectually deprived of its own fixed air, as to be able to abſorb the whole of that in the alkali, the ley will make no efferveſcence with acids, being now deprived of its fixed air.

It may be proper to obſerve, for the ſake of underſtanding the whole of the theory of the above proceſs, that while the alkali has become cauſtic, the lime has in its turn become mild and inſoluble in water, from having received the fixed air of the alkali.

The cauſtic ley, under various pompous names, has been much uſed as a lithontriptic; but its fame is now beginning to decline. In acidities in the ſtomach, attended with much flatulence and laxity, the cauſtic ley is better adapted than mild alkalies; as in its union with the acid matter it does not ſeparate air. When covered with mucilaginous matters, it may be ſafely taken into the ſtomach: and by ſtimulating, it coincides with the other intentions of cure. It has been employed with advantage in dyſpeptic caſes.

KALI PURUM,

Lond.

Pure kali.

Take of

Water of pure kali, one gallon.

Evaporate it to dryneſs; after which let the ſalt melt on the fire and pour it out.

CAUSTICUM COMMUNE ACERRIMUM.

Edin.

The ſtrongeſt common Cauſtic.

Take of

Cauſtic ley, what quantity you pleaſe.

Evaporate it in a very clean iron veſſel on a gentle fire, till, on the ebullition ceaſing, the ſaline mater gently flows like oil, which happens before the veſſel becomes red. Pour out the cauſtic, thus liquefied, on a ſmooth iron plate; let it be divided into ſmall pieces before it hardens, which are to be kept in a well-ſtopt phial.

These preparations may be conſidered as differing in no eſſential particular. But the directions given by the Edinburgh college are the moſt precife and diſtinct.

The effect of the above proceſſes is ſimply to diſcharge the water of the ſolution, whereby the cauſticity of the alkali is more concentrated in any given quantity. Theſe preparations are ſtrong and ſudden cauſtics. The cauſtic prepared in this way has an inconvenience of being apt to liquefy too much on the part to which it is applied, ſo that it is not eaſily confined within the limits in which it is intended to operate; and indeed the ſuddenneſs of its action depends on this diſpoſition to liquefy.

CALX CUM KALI PURO.

Lond.

Lime with pure Kali.

Take of

Quick-lime, five pounds and four ounces;

Water of pure kali, ſixteen pounds by weight.

Boil away the water of pure kali to a fourth part; then ſprinkle in the lime, reduced to powder by the affuſion of water. Keep it in a veſſel cloſe ſtopped.

CAUSTICUM COMMUNE MITIUS.

Edinb.

The milder common cauſtic.

Take of

Cauſtic ley, what quantity you pleaſe.

Evaporate it in an iron veſſel till one-third remains; then mix with it as much new-ſlaked quicklime as will bring it to the conſiſtence of pretty ſolid pap, which is to be kept in a veſſel cloſely ſtopt.

These preparations do not eſſentially differ from each other, while the chief difference between the preſent formula and that which ſtood in the laſt edition of the London pharmacopœia is in the name. It was then ſtyled the *cauſticum commune acerrimum.*

Here the addition of lime in ſubſtance renders the preparation leſs apt to liquefy than the foregoing, and conſequently it is more eaſily confinable within the intended limits, but proportionally ſlower in its operation.

Expoſed long to the air, theſe preparations gradully reſume their power of effervefcence, and proportionally loſe their activity.

NATRON PRÆPARATUM.

Lond

Prepared Natron.

Take of

Barilla, powdered, two pounds;

Diſtilled water, one gallon.

Boil the barilla in four pints of water for half an hour, and ſtrain. Boil the reſiduum with the reſt of the water, and ſtrain. Evaporate the mixed liquors to two pints, and ſet them by for eight days; ſtrain this liquor again; and, after due boiling, ſet it aſide to cryſtalliſe. Diſſolve the cryſtals in diſtilled water; ſtrain the ſolution, boil, and ſet it aſide to cryſtalliſe.

The name of *natron*, here uſed by the London college for the fixed foſſil alkali, has, as well as their name for the vegetable alkali, been objected to. This article differs in name only from the following.

SODA PURIFICATA, vulgo SAL ALKALINUS FIXUS FOSSILIS PURIFICATUS.

Edinb.

Purified Soda, commonly called *purified fixed Foſſil Alkaline Salt.*

Take of
Aſhes of Spaniſh kali, or barilla, as much as you pleaſe.
Bruiſe them; then boil in water till all the ſalt be diſſolved. Strain this through paper, and evaporate it in an iron veſſel, ſo that after the liquor has cooled the ſalt may concrete into cryſtals.

By the above proceſſes, the foſſil alkali is obtained ſufficiently pure, being much more diſpoſed to cryſtalliſe than the vegetable alkali.

It is with great propriety, that in this, as well as many other proceſſes, the London college direct the uſe of diſtilled water, as being free from every impregnation.

The natron, or foſſil alkali, is found native in ſome parts of Africa, and ſeems to have been better known to the antients than to late naturaliſts; and it is, with good reaſon, ſuppoſed to be the nitre of the Bible. How far the native natron may ſuperſede artificial means to procure it from mixed bodies, we have not been able to learn with certainty.

The foſſil alkali is not only a conſtituent of different neutrals, but is alſo ſometimes employed as a medicine by itſelf. And in its purified ſtate it has been by ſome reckoned uſeful in affections of the ſcrophulous kind.

AMMONIA PRÆPARATA.

Lond.

Prepared Ammonia.

Take of
Sal ammoniac, powdered, one pound;
Prepared chalk, two pounds.
Mix and ſublime.

AMMONIA PRÆPARATA, vulgo SAL AMMONIACUS VOLATILIS.

Edinb.

Prepared ammonia, commonly called *Volatile ſal Ammoniac.*

Take of
Sal ammoniac, one pound:
Chalk, very pure and dry, two pounds;
Mix them well, and ſublime from a retort into a refrigerated receiver.

AQUA AMMONIÆ.

Lond.

Water of Ammonia.

Take of
Sal ammoniac, one pound;
Pot-aſh, one pound and a half;
Water, four pints.

Draw off two pints by diſtillation, with a ſlow fire.

AQUA AMMONIÆ, vulgo SPIRITUS SALIS AMMONIACI.

Edinb.

Water of Ammonia, commonly called *Spirit of Sal Ammoniac.*

Take of
Sal ammoniac,
Purified lixive, of each ſixteen ounces ;
Water, two pounds.

Having mixed the ſalts, and put them into a glaſs retort, pour in the water ; then diſtil to dryneſs with a ſand bath, gradually raiſing the heat.

Sal ammoniac is a neutral ſalt, compoſed of volatile alkali and muriatic acid. In theſe proceſſes the acid is abſorbed by the fixt alkali or chalk ; and the volatile alkali is of courſe ſet at liberty.

The volatile alkali is, however, in its mild ſtate, being combined with the fixed air, diſcharged from the fixed alkali or chalk, on their uniting with the muriatic acid.

The fixt alkali begins to act on the ſal ammoniac, and extricates a pungent urinous odour as ſoon as they are mixed. Hence it is moſt convenient not to mix them till put into the retort : the two ſalts may be diſſolved ſeparately in water, the ſolutions poured into a retort. and a receiver immediately fitted on. An equal weight of the fixt alkaline ſalt is fully, perhaps more than ſufficient, to extricate all the volatile alkali.

Chalk does not begin to act on the ſal ammoniac till a conſiderable heat be applied. Hence they may be without inconvenience, and indeed ought to be, thoroughly mixed together before they are put into the retort. The ſurface of the mixture may be covered with a little more powdered chalk, to prevent ſuch particles of the ſal ammoniac as may happen to lie uppermoſt from ſubliming unchanged. Though the fire muſt here be much greater than when fixt alkaline ſalt is uſed, it muſt not be ſtrong, nor ſuddenly raiſed ; for if it be, a part of the chalk (though of itſelf not capable of being elevated by any degree of heat) will be carried up along with the volatile ſalt. M. du Hamel experienced the juſtneſs of this obſervation : He relates, in the Memoirs of the French Academy of Sciences for the year 1735, than he frequently found his volatile ſalt, when a very ſtrong fire was uſed in the ſublimation, amount to more, ſometimes one half more, than the weight of the crude ſal ammoniac employed : and, although not three fourths of this concrete are pure volatile ſalt, yet the fixt earthy matter, when once volatilized by the alkali, aroſe along with it again on the gentleſt reſublimation, diſſolved with it in water, and exhaled with it in the air.

When all the ſalt has ſublimed, and the receiver grown cool, it may be taken off, and luted to another retort charged with freſh materials. This proceſs may be repeated till the recipient appears lined with volatile ſalt to a conſiderable thickneſs ; the veſſel muſt then be broken, in order to get out the ſalt.

Theſe preparations of volatile alkali procured from Sal ammoniac are ſomewhat more acrimonious than thoſe produced directly from animal ſubſtances, which always contain a portion of the oil of the ſubject, and receive from thence ſome degree of a ſaponaceous quality. Theſe laſt may be reduced to the ſame degree of purity, by combining them with acids into ammoniacal ſalts; and afterwards recovering the volatile alkali from theſe compounds by the proceſſes above directed.

The matter which remains in the retort after the diſtillation or ſublimation of the volatile alkali is found to conſiſt of muriatic acid united with the fixt alkali or chalk employed. When vegetable fixt alkali has been uſed, the reſiduum, or *caput mortuum* as it is called, yields, on ſolution and cryſtalliſation, a muriated pot-aſh to which extraordinary virtues were formerly attributed. It was called by the names of *ſal antihyſtericum, antihypochondriacum, febrifugum, digeſtivum Sylvii, &c.*

The *caput mortuum* of the volatile ſalt, where chalk is employed, expoſed to a moiſt air, runs into a pungent liquor preciſely the ſame with a ſolution of chalk made directly in the muriatic acid; it is called by ſome *oleum cretæ*, oil of chalk. It ought to be preſerved, as it is the beſt ſubſtance for the rectification of alkohol. For the manner of uſing it in that proceſs ſee ALKOHOL.

AQUA AMMONIÆ PURÆ.
Lond.

Water of pure Ammonia.

Take of
- Sal ammoniac, one pound;
- Quicklime, two pounds;
- Water, one gallon.

Add to the lime two pints of the water. Let them ſtand together an hour; then add the ſal ammoniac and the other ſix pints of water boiling, and immediately cover the veſſel. Pour out the liquor when cold, and diſtil off with a ſlow fire one pint.

AQUA AMMONIÆ CAUSTICÆ, vulgo SPIRITUS SALIS AMMONIACI CUM CALCE VIVA.
Edinb.

Water of cauſtic ammonia, commonly called *ſpirit of ſal ammoniac with quicklime.*

Take of
- Quicklime, freſh burnt, two pounds:
- Water, one pound.

Having put the water into an iron or ſtone ware veſſel, add the quicklime, previouſly beat; cover the veſſel for twenty-four hours: when the lime has fallen into a fine powder, put it into the retort. Then add ſixteen ounces of ſal ammoniac, diſſolved in five pounds of water; and, ſhutting the mouth of the retort, mix them together by agitation. Laſtly, diſtil into a refrigerated receiver with a very gentle heat, (ſo that the operator's hand can eaſily bear the heat of the retort) till twenty ounces of liquor are drawn off. In this diſtillation the veſſels are to be ſo luted as to effectually reſtrain the vapours, which are very penetrating.

THE theory of theſe proceſſes is preciſely the ſame with that of the preparation of *lixivium cauſticum.* The effect of the quicklime on the ſal ammoniac, is very different from that of the chalk. The quicklime detaching the volatile alkali pure, while the chalk during its union with the acid gives out fixt air, which combines with the volatile alkali and renders it mild.

Immediately on mixture, a very penetrating vapour exhales; and in diſtillation the whole of the volatile ſalt ariſes in a liquid form; no part of it appearing in a concrete ſtate, how gently ſoever the liquor be diſtilled. This ſpirit is far more pungent than the other, both in ſmell and taſte; and, like cauſtic fixt alkalies raiſes no effervescence with acids.

This ſpirit is held to be too acrimonious for internal uſe, and has therefore been chiefly employed for ſmelling to in faintings, &c. though when properly diluted, it may be given inwardly with ſafety. It is a powerful menſtruum for ſome vegetable ſubſtances, as Peruvian bark, from which the other ſpirits extract little. It is alſo moſt convenient for the purpoſe of rendering oils miſcible with water; as in the preparation of what is called in extemporaneous practice *the oily mixture.*

Some have mixed a quantity of this with the officinal ſpirits both of ſal ammoniac and of hartſhorn; which thus become more pungent, ſo as to bear an addition of a conſiderable quantity of water, without any danger of the diſcovery from the taſte or ſmell. This abuſe would be prevented, if what has been formerly laid down as a mark of the ſtrength of theſe ſpirits (ſome of the volatile ſalt remaining undiſſolved in them) were attended to. It may be detected by adding to a little of the ſuſpected ſpirit about one-fourth its quantity or more of rectified ſpirit of wine: which, if the volatile ſpirit be genuine, will precipitate a part of its volatile ſalt, but occaſions no viſible ſeparation or change in the cauſtic ſpirit, or in thoſe which are ſophiſticated with it.

Others have ſubſtituted for the ſpirit of ſal ammoniac a ſolution of crude ſal ammoniac and fixt alkaline ſalt mixed together. This mixture depoſites a ſaline matter on the addition of ſpirit of wine, like the genuine ſpirit; from which, however, it may be diſtinguiſhed by the ſalt which is thus ſeparated not being a volatile alkali, but a fixt neutral ſalt. The abuſe may be more readily detected by a drop or two of ſolution of ſilver, in aquafortis, which will produce no change in the appearance of the true ſpirit, but will render the counterfeit turbid and milky.

LIQUOR VOLATILIS, SAL, ET OLEUM CORNU CERVI.

Lond.

The volatile Liquor, Salt, and Oil, of Hartſhorn.

Take of

Hartſhorn, ten pounds.

Diſtil with a fire gradually increaſed. A volatile liquor, ſalt, and oil will aſcend.

The oil and ſalt being ſeparated, diſtil the liquor three times.

To the ſalt add an equal weight of prepared chalk, and ſublime thrice, or till it become white.

The ſame volatile liquor, ſalt, and oil, may be obtained from any parts (except the fat) of all kinds of animals.

The volatile alkali obtained from hartſhorn, whether in a ſolid or fluid ſtate, is preciſely the ſame with that obtained from ſal ammoniac; and as that proceſs is the eaſieſt, the Edinburgh college have entirely rejected the preſent. Volatile alkali however, is prepared from bones and other animal ſubſtances by ſeveral very extenſive traders,

traders. Theſe wholeſale dealers have very large pots for this diſtillation with earthen heads almoſt like thoſe of the common ſtill; for receivers, they uſe a couple of oil jars, the mouths of which are luted together; the pipe that comes from the head enters the uppermoſt jar through a hole made on purpoſe in its bottom. When a large quantity of the ſubject is to be diſtilled, it is cuſtomary to continue the operation for ſeveral days ſucceſſively; only unluting the head occaſionally to put in freſh materials.

When only a ſmall quantity of ſpirit or ſalt is wanted, a common iron pot, ſuch as is uſually fixed in ſand furnaces, may be employed; an iron head being fitted to it. The receiver ought to be large, and a glaſs, or rather tin, adopter inſerted between it and the pipe of the head.

The diſtilling veſſel being charged with pieces of the horn, a moderate fire is applied, which is ſlowly increaſed, and raiſed at length almoſt to the utmoſt degree. At firſt a watery liquor ariſes; the quantity of which will be ſmaller or greater according as the horns were more or leſs dry: this is ſucceeded by the ſalt and oil; the ſalt at firſt diſſolves as it comes over in the phlegm, and thus forms what is called *ſpirit*. When the phlegm is ſaturated, the remainder of the ſalt concretes in a ſolid form to the ſides of the recipient. If it be required to have the whole of the ſalt ſolid and undiſſolved, the phlegm ſhould be removed as ſoon as the ſalt begins to ariſe, which may be known by appearance of white fumes; and that this may be done the more commodiouſly, the receiver ſhould be left unluted, till this firſt part of the proceſs be finiſhed. The white vapours which now ariſe, ſometimes come with ſuch vehemence, as to throw off or burſt the receiver; to prevent this accident, it is convenient to have a ſmall hole in the luting; which may be occaſionally ſtopt with a wooden peg, or opened as the operator ſhall find proper. After the ſalt has all ariſen, a thick dark coloured oil comes over: the proceſs is now to be diſcontinued: and the veſſels, when grown cold, unluted.

All the liquid matters being poured out of the receiver, the ſalt which remains adhering to its ſides it to be waſhed out with a little water, and added to the reſt. It is convenient to let the whole ſtand for a few hours, that the oil may the better diſengage itſelf from the liquor, ſo as to be firſt ſeparated by a funnel, and afterwards more perfectly by filtration through wet paper. The ſalt and ſpirits are then to be farther purified as above directed.

The ſpirit of hartſhorn met with in the ſhops is extremely precarious in point of ſtrength; the quantity of ſalt contained in it (on which its efficacy depends) varying according as the diſtillation in rectifying it is continued for a longer or ſhorter time. If after the volatile ſalt has ariſen, ſo much of the phlegm or watery part be driven over as is juſt ſufficient to diſſolve it, the ſpirit will be fully ſaturated, and as ſtrong as it can be made. If the proceſs be not at this inſtant ſtopped, the phlegm, continuing to ariſe, muſt render the ſpirit continually weaker and weaker. The diſtillation therefore ought to be diſcontinued at this period; or rather while ſome of the ſalt ſtill remains undiſſolved;

the ſpirit will thus prove always equal, and the buyer be furniſhed with a certain criterion of its ſtrength.

Volatile alkaline ſalts, and their ſolutions called *ſpirits*, agree in many reſpects, with fixt alkalies, and their ſolutions or leys: as in changing the colour of blue flowers to a green: effervefcing, when in their mild ſtate, with, and neutraliſing acids; liquefying the animal juices; and corroding the fleſhy parts, ſo as, when applied to the ſkin, and prevented from exhaling by a proper covering, to act as cauſtics; diſſolving oils and ſulphur, though leſs readily than fixed alkalies, on account, probably, of their not being able to bear any conſiderable heat, by which their activity might be promoted. Their principal difference from the other alkalies ſeems to conſiſt in their volatility: they exhale or emit pungent vapours in the coldeſt ſtate of the atmoſphere; and by their ſtimulating ſmell they prove ſerviceable in languors and faintings. Taken internally, they diſcover a greater colliquating as well as ſtimulating power; the blood drawn from a vein, after their uſe has been continued for ſome time, is ſaid to be remarkably more fluid than before; they are likewiſe more diſpoſed to operate by perſpiration, and to act on the nervous ſyſtem. They are particularly uſeful in lethargic caſes; in hyſterical and hypochondriacal diſorders, and in the languors, headachs, inflations of the ſtomach, flatulent colics, and other ſymptoms which attend them; they are generally found more ſerviceable to aged perſons, and in phlegmatic habits, than in the oppoſite circumſtances. In ſome fevers, particularly thoſe of the low kind, accompanied with a cough, hoarſeneſs, and a redundance of phlegm, they are of great utility; raiſing the vis vitæ, and exciting a ſalutary diaphoreſis: In vernal intermittents, particularly thoſe of the ſlow kind, they are often the moſt efficacious remedy. Dr Biſſet obſerves, in his eſſay on the medical Conſtitution of Great Britain, that though many caſes occur which will yield to no other medicine than the bark, yet he has met with many which were only ſuppreſſed from time to time by the bark, but were completely cured by alkaline ſpirits: He tells us, that theſe ſpirits will often carry off vernal intermittents, without any previous evacuation: but that they are generally more effectual, if a purge be premiſed; and in plethoric or inflammatory caſes, or where the fever perſonates a remittent, veneſection is neceſſary.

Theſe ſalts are moſt commodiouſly taken in a liquid form, largely diluted: or in that of a bolus, which ſhould be made up only as it is wanted. The doſe is from a grain or two to ten or twelve. Ten drops of a well made ſpirit, or ſaturated ſolution, are reckoned to contain about a grain of ſalt. In intermittents, fifteen or twenty drops of the ſpirit are given in a tea-cupfull of cold ſpring water, and repeated five or ſix times in each intermiſſion.

The volatile ſalts and ſpirits prepared from different animal ſubſtances, have been ſuppoſed capable of producing different effects on the human body, and to receive ſpecific virtues from the ſubject. The ſalt of vipers has been eſteemed particularly ſerviceable

viceable in diſorders occaſioned by the bite of that animal; and a ſalt drawn from the human ſkull, in diſeaſes of the head. But modern practice acknowledges no ſuch different effects from theſe preparations; and chemical experiments have ſhewn their identity. There is, indeed, when not ſufficiently purified, a very perceptible difference in the ſmell, taſte, degree of pungency, and volatility of theſe ſalts; and in this ſtate their medicinal virtues vary conſiderably enough to deſerve notice: but this difference they have in common, according as they are more or leſs loaded with oil, not as they are produced from this or that animal ſubſtance. As firſt diſtilled, they may be conſidered as a kind of volatile ſope, in which the oil is the prevailing principle; in this ſtate they have much leſs of the proper alkaline acrimony and pungency than when they have undergone repeated diſtillations, and ſuch other operations as diſengage the oil from the ſalt; for by theſe means they loſe their ſaponaceous quality, and acquiring greater degrees of acrimony, become medicines of a different claſs. Theſe preparations therefore do not differ nearly ſo much from each other, as they do from themſelves in different ſtates of purity. To which may be added, that when we conſider them as loaded with oil, the virtues of a diſtilled animal oil itſelf are likewiſe to be brought into the account.

Theſe oils, as firſt diſtilled, are highly fetid and offenſive, of an extremely heating quality, and of ſuch activity, that, according to Hoffman's account, half a drop diſſolved in a drachm of ſpirit of wine, is ſufficient to raiſe a copious ſweat. By repeated rectifications, they loſe their offenſiveneſs, and at the ſame time become mild in their medicinal operation. The rectified oils may be given to the quantity of twenty or thirty drops, and are ſaid to be anodyne and antiſpaſmodic, to procure a calm ſleep and gentle ſweat, without heating or agitating the body, as has been obſerved in treating of the *Oleum animale*. It is obvious, therefore, that the ſalts and ſpirits muſt differ, not only according to the quantity of oil they contain, but according to the quality of the oil itſelf in its different ſtates.

The volatile ſalt and ſpirits, as firſt diſtilled, are of a brown colour, and a very offenſive ſmell: by repeated rectification, as directed in the proceſſes above ſet down, they loſe great part of the oil on which theſe qualities depend, the ſalt becomes white, and the ſpirit limpid as water, and of a grateful odour; and this is the mark of ſufficient rectification.

It has been objected to the repeated rectification of theſe preparations, that, by ſeparating the oil, it renders them ſimilar to the pure ſalt and ſpirit of ſal ammoniac, which are procurable at an eaſier rate. But the intention is not to purify them wholly from the oil, but to ſeparate the groſſer part, and to ſubtilize the reſt, ſo as to bring it towards the ſame ſtate as when the oil is rectified by itſelf. The rectification of ſpirit of hartſhorn, has been repeated twenty times ſucceſſively, and the ſpirit found ſtill to participate of oil, but of an oil very different from what it was in the firſt diſtillation.

The rectified oils, in long keeping become again fetid. The ſalts and ſpirits alſo, however carefully rectified, ſuffer in length of time the ſame change; reſuming their original brown colour and ill ſmell; a proof that the rectification is far from having diveſted them of oil. Any intentions, however, which they are thus capable of anſwering, may be as effectually accompliſhed by a mixture of the volatile alkali with the oleum animale, in its rectified ſtate, to any extent that may be thought neceſſary.

KALI VITRIOLATUM.

Lond.

Vitriolated Kali.

Take of

The ſalt which remains after the diſtillation of the nitrous acid, two pounds.

Diſtilled water, two gallons.

Burn out the ſuperfluous acid, with a ſtrong fire, in an open veſſel: then boil it a little while in the water; ſtrain, and ſet the liquor aſide to cryſtalliſe.

The ſalt thus formed, is the ſame with the vitriolated tartar of the laſt edition of the London Pharmacopœia; but it is now prepared in a cheaper and eaſier manner, at leaſt for thoſe who diſtil the nitrous acid. In both ways a neutral is formed, conſiſting of the fixed vegetable alkali, united to the vitriolic acid. But a ſimilar compound may alſo be obtained by the following proceſs of the Edinburgh Pharmacopœia.

LIXIVA VITRIOLATA, vulgo TARTARUM VITRIOLATUM.

Edinb.

Vitriolated lixive, commonly called *Vitriolated Tartar.*

Take of

Vitriolic acid, diluted with ſix times its weight of water, as much as you pleaſe.

Put it into a capacious glaſs veſſel, and gradually drop into it, of purified lixive diluted with ſix times its weight of water, as much as is ſufficient thoroughly to neutraliſe the acid. The effervefcence being finiſhed, ſtrain the liquor through paper; and after proper evaporation, ſet it aſide to cryſtalliſe.

This is an elegant, and one of the leaſt troubleſome ways of preparing this ſalt. The Edinburgh College, in their former editions, ordered the acid liquor to be dropped into the alkaline: by the converſe procedure now received, it is obviouſly more eaſy to ſecure againſt a redundance of acidity; and for the greater certainty in this point, it may be expedient, to drop in a little more of the alkaline ley than the ceſſation of the effervefcence ſeems to require.

In a former edition of the ſame Pharmacopœia, the acid was directed to be diluted only with its equal weight of water, and the alkali with that quantity of water which it is capable of imbibing from the atmoſphere. By that imperfection there was not water enough to keep the vitriolated tartar diſſolved; on which account, as faſt as the alkali was neutraliſed by the acid, a great part fell to the bottom in a powdery form. In order to obtain perfect and well formed cryſtals the liquor ſhould not be evaporated by long boiling and then ſet in the cold, but continued in a moderate heat, ſuch as the hand can eaſily bear, that the water may ſlowly evaporate.

It is remarkable, that although the vitriolic acid and fixed alkaline ſalt each readily unite with water and ſtrongly attract moiſture, even from the air, yet the neutral reſulting from the combination of theſe two, is one of the ſalts moſt difficult of ſolution, very little of it being taken up by cold water.

Vitriolated tartar, in ſmall doſes, as a ſcruple or half a drachm, is an uſeful aperient; in large ones, as four or five drachms, a mild cathartic which does not paſs off ſo haſtily as the *magneſia vitriolata* or *Soda vitriolata*, and ſeems to extend its action further.

LIXIVA VITRIOLATA SULPHUREA, vulgo SAL POLYCHRESTUS.

Edin.

Sulphureous vitriolated lixive, commonly called *Salt of many virtues.*

Take
- Nitre in powder,
- Flowers of ſulphur, of each equal parts.

Mix them well together, and inject the mixture, by little and little at a time, into a red hot crucible: the deflagration being over, let the ſalt cool, after which it is to be put up in a glaſs veſſel well ſtopt. The ſalt may be purified by diſſolving it in warm water, filtering the ſolution, and cryſtalliſing it again.

This is another method of uniting the vitriolic acid with the vegetable fixt alkali; the nitre being decompounded and the ſulphur changed into vitriolic acid.

NATRON VITRIOLATUM.

Lond.

Vitriolated Natron.

Take of
- The ſalt which remains after the diſtillation of the muriatic acid, two pounds;
- Diſtilled water, two pints and an half.

Burn out the ſuperfluous acid with a ſtrong fire, in an open veſſel; then boil it for a little in the water: ſtrain the ſolution, and ſet it by to cryſtalliſe.

SODA VITRIOLATA, vulgo SAL GLAUBERI.

Edin.

Vitriolated Soda, commonly called *Glauber's Salt.*

Diſſolve in warm water the maſs which remains after the diſtillation of the muriatic acid; filtre the ſolution, and cryſtalliſe the ſalt.

The directions given for the preparation of this ſalt, long known by the name of *Sal mirabile Glauberi*, are nearly the ſame in the pharmacopœias of both colleges.

In a former edition of the Edinburgh pharmacopœia, it was ordered, that if the cryſtals (obtained as above) proved too ſharp, they ſhould be again diſſolved in water, and the filtred liquor evaporated to ſuch a pitch only as may diſpoſe the ſalt to cryſtalliſe. But there is no great danger of the cryſtals proving too ſharp, even when the muriatic acid is made with the largeſt proportion of oil of vitriol directed under that proceſs. The liquor which remains after the cryſtalliſation is indeed very acid; and with regard to this preparation, it is convenient it ſhould be ſo; for otherwiſe the cryſtals will be very ſmall, and likewiſe in a ſmall quantity. Where a ſufficient proportion of vitriolic acid has not been employed in the diſtillation of the muriatic acid it is neceſſary to add ſome to the liquor, in order to promote the cryſtalliſation of the ſalt.

The title of ſal catharticus, which this ſalt has often had, expreſſes its medical virtues. Taken from half an ounce to an ounce, or more, it proves a mild and uſeful purgative; and in ſmaller doſes largely diluted, a ſerviceable aperient and diuretic. The ſhops frequently ſubſtitute for it the *magneſia vitriolata* which is ſomewhat more unpleaſant, and leſs mild in operation. They are very eaſily diſtinguiſhable from each other, by the effect of alkaline ſalts on ſolutions of them. The ſolutions of Glauber's ſalt ſuffer no viſible change from this addition, its own baſis being fixt alkali: but the ſolution of the vitriolated magneſia grows inſtantly white and turbid, its baſis, which is magneſia, being extricated copiouſly by the alkaline ſalt.

NITRUM PURIFICATUM.

Lond.

Purified Nitre.

Take of

  Nitre, two pounds;

  Diſtilled water, four pints.

Boil the nitre in the water till it be diſſolved; ſtrain the ſolution, and ſet it aſide to cryſtalliſe.

Common nitre contains uſually a conſiderable portion of ſea-ſalt, which in this proceſs is ſeparated, the ſea-ſalt remaining diſſolved after the greateſt part of the nitre has cryſtalliſed. The cryſtals which ſhoot after the firſt evaporation are large, regular, and pure: but when the remaining liquor is further evaporated, and this repeated a ſecond or third time, the cryſtals prove at length ſmall, imperfect, and tipt with little cubical cryſtals of ſea ſalt.

KALI ACETATUM.

Lond.

Acetated Kali.

Take of

  Kali, one pound.

Boil it, with a ſlow fire, in four or five times its quantity of diſtilled vinegar; the efferveſcence ceaſing, add, at different times, more diſtilled vinegar, until the laſt vinegar being nearly evaporated, the addition of freſh will excite no efferveſcence, which will happen when about twenty pounds of diſtilled vinegar are conſumed; afterwards let it be dried ſlowly. An impure ſalt will be left, which melt for a little while with a ſlow fire; then let it be diſſolved in water, and filtered through paper.

If the fuſion has been rightly performed, the ſtrained liquor will be colourleſs; if otherwiſe, of a brown colour.

Laſtly, evaporate this liquor with a ſlow fire, in a very ſhallow glaſs veſſel; frequently ſtirring the maſs, that the ſalt may be more completely dried, which ſhould be kept in a veſſel cloſe ſtopt.

The ſalt ought to be very white, and diſſolve wholly, both in water and ſpirit of wine, without leaving any feces. If the ſalt, although white, ſhould depoſite any feces in ſpirit of wine, that ſolution in the ſpirit ſhould be filtered through paper, and the ſalt again dried.

LIXIVA ACETATA, vulgo, TARTARUM REGENERATUM.

Edin.

Acetated lixive, commonly called *Regenerated Tartar.*

Take of

Purified lixive, one pound.

Boil it with a very gentle heat in four or five times its quantity of diſtilled vinegar; add more diſtilled vinegar, at different times, till on the watery part of the former quantity being nearly diſſipated by evaporation, the new addition of vinegar ceaſes to raiſe any effervefcence. This happens, when about twenty pounds of diſtilled vinegar has been conſumed. The impure ſalt remaining after the exſiccation, is to be melted with a gentle heat and kept fluid only for a ſhort time; then diſſolve it in water, and ſtrain through paper. If the liquefaction has been properly performed, the ſtrained liquor will be limpid; but, if otherwiſe, of a brown colour.

Evaporate this liquor with a very gentle heat in a ſhallow glaſs veſſel, occaſionally ſtirring the ſalt as it becomes dry, that its moiſture may ſooner be diſſipated. Then put it up into a veſſel very cloſely ſtopt, to prevent it from liquefying in the air.

The purification of this ſalt is not a little troubleſome. The operator muſt be particularly careful in melting it, not to uſe a great heat, or to keep it long liquefied: a little ſhould be occaſionally taken out, and put into water; and as ſoon as it begins to part freely with its black colour, the whole is to be removed from the fire. In the laſt drying, the heat muſt not be ſo great as to melt it; otherwiſe it will not prove totally ſoluble. If the ſolution in ſpirit of wine be exſiccated, and the remaining ſalt liquefied with a very gentle fire, it gains the leafy appearance which has procured it the name *Terra foliata tartari.*

In the fourth volume of the Memoirs of the correſpondents of the French Academy, Mr Cadet has given an excellent method of making the ſalt white at the firſt evaporation, without the trouble of any further purification. He obſerves, that the brown colour depends on the oily matter of the vinegar being burnt by the heat commonly employed in the evaporation: and his improvement conſiſts in diminiſhing the heat at the time that this burning is liable to happen. The proceſs he recommends is as follows.

Diſſolve a pound of ſalt of tartar in a ſufficient quantity of cold water; filtre the ſolution, and add by degrees as much diſtilled vinegar as will ſaturate it, or a little more. Set the liquor to evaporate in a ſtone-ware veſſel in a gentle heat, not ſo ſtrong as to make it boil. When a pellicle appears on the ſurface, the reſt of the proceſs muſt be finiſhed in a water-bath. The liquor acquires, by degrees an oily conſiſtence and a pretty deep brown colour; but the pellicle or ſcum on the top looks whitiſh, and when taken off and cooled, appears a congeries of little brilliant ſilver-like plates. The matter is to be kept continually ſtirring, till it be wholly changed into this white flaky ſubſtance; the complete drying of which is moſt conveniently effected in a warm oven.

The *Lixiva acetata*, which way ſoever prepared, provided it be properly made, is a medicine of great efficacy, and may be ſo doſed and managed as to prove either mildly cathartic, or powerfully diuretic: few of the ſaline deobſtruents come up to it in virtue. The doſe is from half a ſcruple to a drachm or two. A bare mixture, however, of alkaline ſalt and vinegar, without exſiccation, is not perhaps much inferior as a medicine to the more elaborate ſalt. Two drachms of the alkali, ſaturated with vinegar, have been known to occaſion ten or twelve ſtools in hydropic caſes, and a plentiful diſcharge of urine, without any inconvenience.

AQUA AMMONIÆ ACETATÆ.

Lond.

Water of acetated Ammonia.

Take of
- Ammonia, by weight, two ounces;
- Diſtilled vinegar, four pints; or as much as is ſufficient to ſaturate the ammonia.

Mix.

AQUA AMMONIÆ ACETATÆ, vulgo SPIRITUS MINDERERI.

Edinb.

Water of Acetated Ammonia, commonly called *Spirit of Mindererus*.

Take any quantity of prepared ammonia, and gradually pour as much diſtilled vinegar on it as is ſufficient to ſaturate it completely.

THOUGH this article has long been known by the name of Spiritus Mindereri, ſo called from the inventor; yet the name uſed by both colleges is undoubtedly preferable, as giving a proper idea of its conſtituent parts.

This is an excellent aperient ſaline liquor. Taken warm in bed, it generally proves a powerful diaphoretic or ſudorific? and as it operates without heat, it has place in febrile and inflammatory diſorders, where medicines of the warm kind, if they fail of procuring ſweat, aggravate the diſtemper. Its action may likewiſe be determined to the kidneys, by walking about in a cool air. The common doſe is half an ounce, either by itſelf, or along with other medicines adapted to the intention. Its ſtrength is not a little precarious, depending much on that of the vinegar; an inconvenience which cannot eaſily be obviated, for this ſaline matter is not reducible to the form of a concrete ſalt.

KALI TARTARISATUM.

Lond.

Tartariſed Kali.

Take of
- Prepared kali one pound.

Cryſtals of tartar, three pounds;
Diſtilled water, boiling, one gallon.

To the kali, diſſolved in the water, throw in gradually the cryſtals of tartar powdered; filtre the liquor, when cold, through paper: and, after due evaporation, ſet it apart to cryſtalliſe.

LIXIVA TARTARISATA, vulgo TARTARUM SOLUBILE.

Edin.

Tartariſed Lixive, commonly called *Soluble Tartar*.

Take of
Purified lixive, one pound;
Water, fifteen pounds.

To the ſalt diſſolved in the boiling water gradually add cryſtals of tartar in fine powder, as long as any effervеſcence riſes, which generally ceaſes before three times the weight of the alkaline ſalt hath been added; then ſtrain the cooled liquor through paper, and after due evaporation ſet it aſide to cryſtalliſe.

Common white tartar is perhaps preferable for this operation to the cryſtals uſually met with. Its impurities can here be no objection; ſince it will be ſufficiently depurated by the ſubſequent filtration.

The preparation of this medicine by either of the above methods is very eaſy; though ſome chemiſts have rendered it ſufficiently troubleſome, by a nicety which is not at all wanted. They inſiſt upon hitting the very exact point of ſaturation between the alkaline ſalt and the acid of the tartar; and caution the operator to be extremely careful, when he comes near this mark, leſt by imprudently adding too large a portion of either, he render the ſalt too acid or too alkaline. If the liquor be ſuffered to cool a little before it be committed to the filtre, and then properly exhaled and cryſtalliſed, no error of this kind can happen, though the ſaturation ſhould not be very exactly hit; for ſince cryſtals of tartar are very difficultly ſoluble even in boiling water, and when diſſolved therein concrete again upon the liquor's growing cold, if any more of them has been employed than is taken up by the alkali, this ſuperfluous quantity will be left upon the filtre; and on the other hand when too much of the alkali has been uſed, it will remain uncryſtalliſed. The cryſtalliſation of this ſalt indeed cannot be effected without a good deal of trouble: it is therefore moſt convenient to let the acid ſalt prevail at firſt; to ſeparate the ſuperfluous quantity, by ſuffering the liquor to cool a little before filtration; and then proceed to the total evaporation of the aqueous fluid, which will leave behind it the neutral ſalt required. The moſt proper veſſel for this purpoſe is a ſtone-ware one; iron diſcolours the ſalt.

In doſes of a ſcruple, half a drachm, or a drachm, this ſalt is a mild cooling aperient: two or three drachms commonly looſen the belly; and an ounce proves pretty ſtrongly purgative. It has been particularly recommended as a purgative for maniacal and melancholic patients. Malouin ſays, it is equal in purgative virtue to the cathartic ſalt of Glauber. It is an uſeful addition to the purgatives of the reſinous kind, as it promotes their operation, and at the ſame time tends to correct their griping quality. But it muſt never be given in conjunction with any acid; for all acids decompound it, abſorbing its alkaline ſalt, and precipitating the tartar. On this account it is improper to join it with tamarinds, or ſuch like acid fruits; which is too often done in the extemporaneous practice of thoſe phyſicians who are fond of mixing different cathartics together, and know little of chemiſtry.

NATRON TARTARISATUM.
Lond.
Tartariſed Natron.

Take of
Natron, twenty ounces;
Cryſtals of tartar, powdered, two pounds;
Diſtilled water, boiling, ten pints.

Diſſolve the natron in the water, and gradually add the cryſtals of tartar: filtre the liquor through paper; evaporate, and ſet it aſide to cryſtalliſe.

SODA TARTARISATA, vulgo SAL RUPELLENSIS.
Edinb.
Tartariſed Soda, commonly called *Rochel Salt.*

The *Sal Rupellenſis* may be prepared from purified ſoda and cryſtals of tartar, in the ſame manner as directed for the *Lixiva tartariſata.*

This is a ſpecies of ſoluble tartar, made with foſſil alkali. It cryſtalliſes more eaſily than the preceding preparation, and does not, like it, grow moiſt in the air. It is alſo conſiderably leſs purgative, but is equally decompounded by acids. It appears to be a very elegant ſalt, and is in as great eſteem in this country, as it has long been in France, being uſed inſtead of the Glauber's and Epſom Salts.

SODA PHOSPHORATA.
Edin.
Phoſphorated Soda.

Take of
Bones burnt to white aſhes and powdered, ten pounds;
Vitriolic acid, ſix pounds;
Water, nine pounds.

Mix the powder and acid together in an earthen veſſel; then add the water, and ſtir the whole ſo as to mix it thoroughly. Place the veſſel in a vapour bath, and digeſt for three days; after which dilute the maſs with nine pounds more of boiling water, and ſtrain the liquor through a ſtrong linen cloth, adding at the end ſome more warm water, that all the acidity may be well waſhed out. Set by the ſtrained liquor that the impurities may ſubſide, and decant the clear ſolution. Evaporate it till only nine pounds remain, and let it ſtand till the impurities ſubſide. This ſecond liquor poured from the impurities muſt be evaporated again till ſeven pounds remain, which muſt be ſet a third time to depoſite its impurities, after which it is to be filtered; this filtered liquor contains the phoſphoric acid ſufficiently pure, to which, heated a little, add purified ſoda diſſolved in warm water until the effervеſcence ceaſes. Filter the neutraliſed liquor, and ſet it aſide to cryſtalliſe. The liquor that remains after the cryſtals are taken out muſt be farther neutraliſed by the addition of ſoda if neceſſary, evaporated and ſet aſide to cryſtalliſe again: and this muſt be repeated as long as any cryſtals can be obtained.

The phoſphorated ſoda is a neutral ſalt, lately introduced into the practice of phyſic by the ingenious Dr Pearſon of Leiceſter Square, London. It is poſſeſſed of the ſame medical qualities as Glauber's and the Rochelle Salt; being an excellent purge in the quantity of an ounce or ten drachms; and has the peculiar advantage over theſe two ſalts in being much leſs nauſeous than they are. Its taſte is extremely ſimilar to that of common ſalt; and when given in a baſon of water-gruel or veal broth it is ſcarcely perceptible by the palate, and conſequently is well adapted for patients whoſe ſtomachs are delicate, and who have an antipathy againſt the Glauber's or Rochelle ſalt.

The only obſtacle to its general uſe, in preference to the two ſalts above mentioned, is its high price: it is certainly much more agreeable to the palate and ſtomach than they are, and it is equally efficacious in its operation.

ALUMINIS PURIFICATIO.

Lond.

Purification of Alum.

Take of
  Alum, one pound;
  Chalk, one drachm;
  Diſtilled water, one pint.
Boil them a little, ſtrain, and ſet the liquor aſide to cryſtallize.

We have already offered ſome obſervations on alum in the Materia Medica; and in general it comes from the alum works in England in a ſtate of ſuch purity as to be fit for every purpoſe in medicine: accordingly we do not obſerve that the purification of alum has a place in any other pharmacopœia; but by the preſent proceſs it will be freed, not only from different impurities, but alſo from ſuperabundant acid.

ALUMEN USTUM.

Lond. Edinb.

Burnt Alum.

Take of
  Alum, half a pound.
Burn it in an earthen veſſel until it ceaſes to bubble.

This, with ſtrict propriety, ought rather to be called dried, than burnt alum: for the only effect of the burning here directed is to expel the water. In this ſtate it is ſo acrid as to be frequently employed as an eſcharotic; and it is chiefly, with this intention, that it has a place in our pharmacopœia: it has ſometimes been alſo taken internally, eſpecially in caſes of cholic.

SAL ſive SACCHARUM LACTIS.

Suec.

Take of milky whey, prepared by rennet, any quantity: let it be boiled over a moderate fire to the conſiſtence of a ſyrup; then put it in a cold place, that cryſtals may be formed. Let the fluid which remains be again managed in the ſame manner, and let the cryſtals formed be waſhed with cold water.

It has been imagined, that the ſuperiority of one milk over another depends on its containing a larger proportion of this ſaline or ſaccharine part; and particularly, that upon this the reputed virtues of aſſes milk depend. Hence this preparation has been greatly celebrated in diſorders of the breaſt, but it is far from anſwering what has been expected from it. It has little ſweetneſs, and is difficult of ſolution in water. A ſaline ſubſtance, much better deſerving the name of ſugar, may be obtained by evaporating new milk, particularly that of aſſes, to dryneſs, digeſting the dry matter in water till the water has extracted its ſoluble parts, and then inſpiſſating the filtered liquor. This preparation is of great ſweetneſs, though neither white nor cryſtalline; nor is it perhaps in the pure cryſtalliſable parts of milk that its medicinal virtues reſide; and ſo little reliance is put on it as a medicine, that it has no place in the London or Edinburgh pharmacopœias; although it has long ſtood, and ſtill ſtands, in the foreign ones.

SAL ACETOSELLÆ.

Suec

Salt of Sorrel.

Take any quantity of the expreſſed juice of the leaves of wood ſorrel; let it boil gently, that the feculent matter may be ſeparated; then ſtrain it till it be clear, and after this boil it on a moderate fire to the conſiſtence of a ſyrup. Put it into long necked glaſs veſſels, and place it in a cold ſituation that it may cryſtalliſe. Let theſe cryſtals be diſſolved in water, and again formed into purer ones.

To make the ſorrel yield its juice readily, it ſhould be cut to pieces, and well bruiſed in a ſmall mortar, before it be committed to the preſs. The magma which remains in the bag ſtill retaining no inconſiderable quantity of ſaline matter, may be advantageouſly boiled in water, and the decoction added to the expreſſed juice. The whole may be afterwards depurated together, either by the method above directed, or by running the liquor ſeveral times through a linen cloth. In ſome caſes, the addition of a conſiderable portion of water is neceſſary, that the juice, thus diluted, may part the more freely with its feculencies; on the ſeparation of which the ſucceſs of the proceſs much depends.

The evaporation ſhould be performed either in ſhallow glaſs baſons, or in ſuch earthen ones as are of a compact cloſe texture. The common earthen veſſels are ſubject to have their glazing corroded, and are ſo extremely porous, as readily to imbibe and retain a good quantity of the liquor; and metallic veſſels are particularly apt to be corroded by theſe acid kinds of juices.

Theſe juices are ſo viſcid, and abound ſo much with heterogeneous matter, of a quite different nature from any thing ſaline, that a pellicle, or pure ſaline incruſtation upon the ſurface, is in vain expected. Boerhaave therefore, and the more expert writers in pharmaceutical chemiſtry, with great judgement direct the evaporation of the ſuperfluous moiſture to be continued until the matter has acquired the conſiſtence of cream. If it be now ſuffered to ſtand for an hour or two in a warm place, it will, notwithſtanding the former depurations, depoſite a freſh ſediment,

ment, from which it ſhould be warily decanted before it be put into the veſſel in which it is deſigned to be cryſtalliſed.

Some recommend an unglazed earthen veſſel as preferable for this purpoſe to a glaſs one; the ſmoothneſs of the latter being ſuppoſed to hinder the ſalt from ſticking to it; while the juice eaſily inſinuating itſelf into the pores of the former, has a great advantage of ſhooting its ſaline ſpicula to the ſides. Others ſlightly incruſtate the ſides and bottom of whatever veſſel they employ with a certain mineral ſalt, which greatly diſpoſes the juice to cryſtalliſe, to which of itſelf it is very averſe: but this addition alters the medical virtue of the ſalt.

The liquor which remains after the cryſtalliſation may be depurated by a gentle colature, and after due inſpiſſation ſet to ſhoot again; when a farther produce of cryſtals will be obtained.

The proceſs for obtaining this ſalt is very tedious; and the quantity of ſalt which the juices afford is extremely ſmall: hence they are ſcarcely ever made or expected to be found in the ſhops. They may be ſomewhat ſooner ſeparated from the mucilage and other feculencies, by clarification with whites of eggs, and by adding very pure white clay.

In the manner above deſcribed, ſalts may alſo be obtained from other acid, auſtere, and bitteriſh plants, which contain but a ſmall quantity of oil.

The virtues of the eſſential ſalts have not been ſufficiently determined from experience. Thus much, however, is certain, that they do not, as has been ſuppoſed, poſſeſs the virtues of the ſubjects entire, excepting only the acids and ſweets. The others ſeem to be, almoſt all of them, nearly ſimilar, whatever plant they are obtained from. In watery extracts of wormwood, carduus, chamomile, and many other vegetables, kept for ſome time in a ſoft ſtate, there may be obſerved fine ſaline efflorescences on the ſurface, which have all nearly the ſame taſte, ſomewhat of the nitrous kind. They are ſuppoſed to be in reality no more than an impure ſpecies of ammoniacal nitre (that is, a ſalt compoſed of the nitrous acid and volatile alkali): thoſe which were examined by the chemiſts of the French academy, deflagrated in the fire, and being triturated with fixt alkali, exhaled an urinous odour; plain marks of their containing theſe two ingredients.

SAL ACIDUM BORACIS.

Suec.

Acid Salt of Borax.

Take of

Borax, an ounce and a half,

Warm ſpring water, one pound.

Mix them in a glaſs veſſel, that the borax may be diſſolved; then pour into it three drachms of the concentrated vitriolic acid; evaporate the liquor till a pellicle appears upon it: after this let it remain at reſt till the cryſtals be formed. Let them be waſhed with cold water and kept for uſe.

This ſalt, which has long been known by the title of *Sal ſedativus Hombergii*, is ſometimes formed by ſublimation: but the proceſs by cryſtalliſation here directed is leſs troubleſome, though the ſalt proves generally leſs white, and is apt likewiſe to retain a part of Glauber's ſalt, eſpecially if the evaporation be long protracted.

The acid of borax appears to the taſte to be a neutral; but when it is examined by alkalies, it ſhews the properties of an acid, effervefcing, uniting, and cryſtalliſing with them, and it deſtroys their alkaline quality. It diſſolves, although not very readily, both in water and ſpirit of wine.

The virtues attributed to it may in ſome degree be inferred from the name of *ſedative*, by which it was long diſtinguiſhed. It has been ſuppoſed to be a mild anodyne, to diminiſh febrile heat, to prevent or remove delirium; and to allay, at leaſt for ſome time, ſpaſmodical affections, particularly thoſe which are the attendants of hypochondriaſis and hyſteria. It may be given in doſes of from two to twenty grains.

SAL AMMONIACUM DEPURATUM.

Suec.

Purified Sal ammoniac.

Diſſolve ſal ammoniac in ſpring-water; ſtrain the liquor through paper; evaporate it to dryneſs in a glaſs veſſel, by means of a moderate fire.

The ſal ammoniac imported from the Mediterranean often contains ſuch impurities as to render the above proceſs neceſſary; but that which is prepared in Britain, is in general brought to market in a ſtate of very great purity. Hence this proceſs is now omitted both in the London and Edinburgh pharmacopœias.

CHAP. VIII.

MAGNESIA.

MAGNESIA.

MAGNESIA ALBA,
Lond.
White Magneſia.

Take of
Vitriolated magneſia,
Kali, each two pounds:
Diſtilled water, boiling, twenty pints.

Diſſolve the vitriolated magneſia and the kali ſeparately in ten pints of water, and filtre each through paper; then mix them. Boil the liquor a little while, and ſtrain it while hot through linen, upon which the magneſia will remain; then waſh away, by repeated affuſions of diſtilled water, the vitriolated kali.

MAGNESIA ALBA.
Edinb.
White Magneſia.

Take of
Vitriolated magneſia;
Purified lixive, equal weights.

Diſſolve them ſeparately in double their quantity of warm water, and let the liquors be ſtrained or otherwiſe freed from the feces: then mix them, and inſtantly add eight times their quantity of warm water. Let the liquor boil a little, ſtirring it very well at the ſame time; then let it reſt till the heat be ſomewhat diminiſhed; after which ſtrain it through a cloth; the magneſia will remain upon the cloth, and is to be waſhed with pure water till it be altogether void of ſaline taſte.

The proceſſes here directed by the London and Edinburgh colleges are nearly the ſame.

The *vitriolated magneſia* or *Epſom ſalt*, is the vitriolic acid and magneſia. In this proceſs then a double elective attraction takes place: the vitriolic acid forſakes the magneſia and joins the pure alkali, for which it has a greater attraction; while the magneſia in its turn unites with the fixed air diſcharged from the mild alkali, and ready to be abſorbed by any ſubſtance with which it can combine.

We have therefore two new products, viz. a vitriolated tartar, and magneſia united with fixed air.

The former is diſſolved in the water, and may be preſerved for uſe; the latter, as being much leſs ſoluble, ſinks to the bottom of the veſſel. The intention of employing ſuch a large quantity of water and of the boiling is, that the vitriolated tartar may beallthoroughly diſſolved, this ſalt being ſo difficultly ſoluble in water, that without this expedient a part of it might be precipitated along with the magneſia. It might perhaps be more convenient to employ the mineral alkali; which forming a Glauber's ſalt with the vitriolic acid, would require leſs water for its ſuſpenſion. By the after ablutions, however, the magneſia is ſufficiently freed from any portion of vitriolated tartar which may have adhered to it.

The ablutions ſhould be made with very pure water; for nicer purpoſes diſtilled water may be uſed, and ſoft water is in every caſe neceſſary. Hard water for this proceſs is peculiarly inadmiſſible, as the principle in waters, giving the property called *hardneſs*, is generally owing to ſelenite, whoſe baſe is capable of being diſengaged by magneſia united with fixed air. For though the attraction of magneſia itſelf for acids is not greater than that of calcareous earth: yet when combined with fixed air, a double decompoſition takes place, for the ſum of the forces tending to join the calcareous earth with the air of the magneſia, and the magneſia with the acid, is greater then the ſum of the forces tending to join the calcareous earth with the acid, and the magneſia with the fixed air: Hence if hard water be uſed, a quantity of calcareous earth muſt infallibly be depoſited on the magneſia; while the acid, with which the calcareous earth was combined in the water, will in its turn attach itſelf to a portion of the magneſia.

All the alkalies and alſo calcareous earths, have a greater attraction for fixed air than magneſia has: Hence, if this laſt be precipitated from its ſolution in acids by cauſtic alkali, it is then procured free from fixed air: but for this purpoſe calcination, which is deſcribed in the following proceſs, is generally employed.

Magneſia alba, when prepared in perfection, is a white and very ſubtile earth, perfectly void of ſmell or taſte, of the claſs of thoſe which diſſolve in acids. It diſſolves freely in the vitriolic acid, and forms with it the bitter purging, or Epſom ſalt, very eaſily ſoluble in water; while the common abſorbents form with the ſame acid almoſt inſipid concretes, very difficult of ſolution. Solutions of magneſia in all acids are bitter and purgative; while thoſe of the other earths are more or leſs auſtere and aſtringent. A large doſe of magneſia, if the ſtomach contain no acid to diſſolve it neither purges no produces any ſenſible effect: a moderate one, if an acid be lodged there, or if acid liquors be taken after it, procures ſeveral ſtools; whereas the common abſorbents, in the ſame circumſtances, inſtead of looſening, bind the belly. It is obvious, therefore that magneſia is ſpecifically different from the other earths, and that it is applicable to ſeveral uſeful purpoſes in medicine.

Magneſia is the ſame ſpecies of earth with that obtained from the mother-ley of nitre, which was for ſeveral years a celebrated ſecret in the hands of ſome particular perſons abroad. Hoffman, who deſcribes the preparations of the nitrous magneſia, gives it the character

ter of an uſeful antacid, a ſafe and inoffenſive laxative in doſes of a drachm or two, and a diaphoretic and diuretic when given in ſmaller doſes of fifteen or twenty grains. Since his time, it has had a conſiderable place in the practice of foreign phyſicians; and is now in great eſteem among us, particularly in heart-burns, and for preventing or removing the many diſorders of children from a redundance of acid in the firſt paſſages: It is preferred, on account of its laxative quality, to the calcareous abſorbents, which, unleſs gentle purgatives be occaſionally given to carry them off, are apt to lodge in the body, and occaſion a coſtiveneſs very detrimental to infants.

Magneſia has gone under different names, as the *White powder of the Count of Palma*, *Powder of Sentinelle*, *Polychreſt*, *Laxative powder*, &c. It ſeems to have got the character *alba* to diſtinguiſh it from the dark coloured mineral *manganeſe* called alſo *magneſia nigræ*, a ſubſtance poſſeſſing very different properties. Pure native magneſia has never been found in its uncombined ſtate. A combination of it with ſulphur has been diſcovered to cover a ſtratum of coal at Littry in Lower Normandy. It is alſo found in ſeveral ſtones, eſpecially thoſe called ſerpentines and ſope rock.

MAGNESIA USTA.

Lond.

Calcined magneſia.

Take of

White magneſia, four ounces.

Expoſe it to a ſtrong heat for two hours; and, when cold ſet it by. Keep it in a veſſel cloſely ſtopt.

MAGNESIA USTA.

Edin.

Calcined magneſia.

Let magneſia, put into a crucible be continued in a red heat for two hours: then put it up in cloſe glaſs veſſels.

By this proceſs the magneſia is freed of fixed air; and according to Dr Black's experiment, loſes about $\frac{7}{12}$ of its weight. A kind of opaque foggy vapour is obſerved to eſcape during the calcination, which is nothing elſe than a quantity of fine particles of magneſia buoyed off along with a ſtream of the diſengaged air. About the end of the operation, the magneſia exhibits a kind of luminous, or phoſphoreſcent property, which may be conſidered as a pretty exact criterion of its being deprived of air.

Calcined magneſia is equally mild as that which is ſaturated with fixed air; and this circumſtance is ſufficient to eſtabliſh a difference between it and calcareous earths; all of which are converted, by calcination, into a cauſtic quicklime.

The magneſia uſta is uſed for the ſame general purpoſes as the magneſia combined with fixed air. In certain affections of the ſtomach, accompanied with much flatulence, the calcined magneſia is found preferable, both becauſe it contains more of the real earth of magneſia in a given quantity, and being deprived of its air, it neutraliſes the acid of the ſtomach, without any extrication of air, which is often a troubleſome conſequence when aerated magneſia is employed in theſe complaints. It is proper to obſerve, that magneſia, whether combined with, or deprived of, fixt air, is ſimilar to calcareous earth in promoting and increaſing putrefaction. The ſame has even been obſerved with reſpect to the Epſom and ſome other ſalts which have this earth for their baſe.

CHAP. IX.

PRÆPARATA E SULPHURE.

PREPARATIONS OF SULPHUR.

FLORES SULPHURIS LOTI.
Lond. Edin.
Waſhed flowers of Sulphur.

Take of
Flowers of ſulphur, one pound;
Diſtilled water, four pints.

Boil the flowers of ſulphur a little while in the diſtilled water; then pour off this water, and waſh off the acid with cold water; laſtly, dry the flowers.

In the former editions of our pharmacopœias, directions were given for the preparation of the flowers of ſulphur themſelves: But it is now ſcarcely ever attempted by the apothecaries. When the flowers are properly prepared, no change is made on the qualities of the ſulphur. Its impurities only are ſeparated; and at the ſame time it is reduced to a finer powder than it can eaſily be brought to by any other means. But as the flowers of ſulphur are generally ſublimed in very capacious rooms, which contain a large quantity of air, or in veſſels not perfectly cloſe; ſome of the ſulphur that ariſes at firſt is apt to take fire, and be thus changed into a volatile acid vapour, which mixing with the flowers that ſublime afterwards, communicates to them a conſiderable degree of acidity. In this caſe, the ablution here directed is abſolutely neceſſary: for the flowers, thus tainted with acid, ſometimes occaſion gripes, and may, in other reſpects, be productive of effects different from thoſe of pure ſulphur.

KALI SULPHURATUM.
Lond.
Sulphurated Kali.

Take of
Flowers of ſulphur, one ounce;
Kali, five ounces.

To the ſulphur melted with a gentle fire, add the kali; mix them by ſtirring them well together, until they unite into an uniform maſs.

This preparation in the former editions of our pharmaçopœias had the name of *hepar ſulphuris*.

It much more convenient to melt the ſulphur firſt by itſelf, and add the kali as here directed, than to grind them together, and afterwards endeavour to melt them as ordered in former editions: For in this laſt caſe the mixture will not flow ſufficiently thin to be properly united by ſtirring; and the ſulphur either takes fire, or ſublimes in flowers; which probably has been the reaſon why ſo large a proportion of it has been commonly directed.

The hepar ſulphuris has a fetid ſmell, and a nauſeous taſte. Solutions of it in water, made with ſugar into a ſyrup, have been recommended in coughs and other diſorders of the breaſt. Our Pharmacopœias, nevertheleſs, have deſervedly rejected the ſyrup. Solutions of the hepar, in water, have been recommended in herpetic and other cutaneous affections. Some phyſicians have even employed this ſolution, in a large quantity, as a bath for the cure of pſora; and in caſes of tinea capitis, it has often been uſed by way of lotion. It has alſo been recommended as an antidote againſt the mineral poiſons.

The hepar, digeſted in rectified ſpirit of wine, imparts a rich gold colour, a warm, ſomewhat aromatic taſte, and a peculiar, not ungrateful ſmell.

OLEUM SULPHURATUM ET PETROLEUM SULPHURATUM.

Lond.

Sulphurated Oil and ſulphurated Petroleum.

Take of

Flowers of ſulphur, four ounces

Olive oil, ſixteen ounces, by weight.

Boil the flowers of ſulphur, with the oil, in a pot ſlightly covered, until they be united.

In the ſame manner is made *ſulphurated petroleum.*

OLEUM SULPHURATUM, vulgo BALSAMUM SULPHURIS CRASSUM.

Edin.

Sulphurated Oil, commonly called *thick Balſam of Sulphur.*

Take of

Olive oil, eight ounces;

Flowers of Sulphur, one ounce.

Boil them together in a large iron pot, ſtirring them continually till they unite.

Theſe are the only Balſams of ſulphur now retained in our pharmacopœias; formerly there were and ſtill are, in ſome of the foreign pharmacopœias, long liſts of them made with different oils expreſſed and eſſential, or with a mixture of both kinds, as *Balſamum ſulphuris aniſatum, terebinthinatum*, &c.

Theſe preparations are more conveniently and ſafely made in a tall glaſs veſſel with a wide mouth, than in the circulatory or cloſe veſſels in which they have commonly been directed to be prepared: for when the ſulphur and oil begin to act vehemently on each other, they not only ſwell, but likewiſe throw out impetuouſly great quantities of an elaſtic vapour; which, if the veſſels be cloſed, or the orifices not ſufficient to allow it a free exit, will infallibly burſt them: Hoffman relates a very remarkable hiſtory of the effects of an accident of this kind. In the veſſel above recommended, the proceſs may be completed, without danger, in four or five hours, by duly managing the fire, which ſhould be very gentle for ſome time, and afterwards increaſed ſo as to make the oil juſt bubble or boil; in which ſtate it ſhould be kept till all the ſulphur appears to be taken up.

Balſam of ſulphur has been ſtrongly recommended in coughs, conſumptions, and other diſorders of the breaſt and lungs: But the reputation which it had in theſe caſes, does not appear to have been built on any fair trial or experience. It is manifeſtly hot, acrimonious, and irritating; and ſhould therefore be uſed with the utmoſt caution. It has frequently been found to injure the appetite, offend the ſtomach and viſcera, parch the body, and occaſion thirſt and febrile heats. The doſe of it is from ten to forty drops. It is employed externally for cleanſing and healing foul running ulcers; and Boerhaave conjectures, that its uſe in theſe caſes gives occaſion to the virtues aſcribed to it when taken internally.

SULPHUR PRÆCIPITATUM.

Lond.

Precipitated Sulphur.

Take of

Sulphurated kali, ſix ounces;

Diſtilled water, one pound and an half;

Diluted vitriolic acid, as much as is ſufficient.

Boil the ſulphurated kali in the diſtilled water until it be diſſolved. Filter the liquor through paper, to which add the vitriolic acid. Waſh the precipitated powder by repeated affuſions of water till it becomes inſipid.

This preparation is not ſo white as that of the laſt pharmacopœia, which was made with quicklime; and which in ſome pharmacopœias had the name of *lac ſulphuris*.

Precipitated ſulphur is not different in quality from pure ſulphur itſelf; to which it is preferred in unguents, &c. only on account of its colour. The whiteneſs does not proceed from the ſulphur having loſt any of its parts in the operation, or from any new matter ſuperadded: for if common ſulphur be ground with alkaline ſalts, and ſet to ſublime, it riſes of a like white colour, the whole quantity of the alkali remaining unchanged; and if the precipitated ſulphur be melted with a gentle fire, it returns into a yellow ſulphur again.

It may be obſerved, that the name *lac ſulphuris*, or *milk of ſulphur*, formerly given to the precipitate, is by the modern French writers confined to the white liquor before the precipitate has fallen from it.

CHAP. X.

PRÆPARATA ANTIMONII.

PREPARATIONS OF ANTIMONY.

ANTIMONY is compoſed of a metal, united with ſulphur.

If powdered antimony be expoſed to a gentle fire, the ſulphur exhales: the metallic part remaining in form of a white calx, reducible, by proper fluxes, into a whitiſh brittle metal, called *regulus*.

If aqua regia be poured on crude antimony, the metallic part will be diſſolved; and the ſulphur thrown out, partly to the ſides of the veſſel, and partly to the ſurface of the liquor, in the form of a greyiſh yellow ſubſtance. This, ſeparated and purified by ſublimation, appears on all trials the ſame with pure common brimſtone.

The metal freed from the ſulphur naturally blended with it, and afterwards fuſed with common brimſtone, reſumes the appearance and qualities of crude antimony.

The antimonial metal is a medicine of the greateſt power of any known ſubſtance; a quantity too minute to be ſenſible in the tendereſt balance, is capable of producing violent effects, if taken diſſolved, or in a ſoluble ſtate. If given in ſuch a form as to be immediately miſcible with the animal fluids, it proves violently emetic, if ſo managed as to be more ſlowly acted on, carthartic; and in either caſe, if the doſe be extremely ſmall, diaphoretic. Thus, though vegetable acids extract ſo little from this metal, that the remainder ſeems to have loſt nothing of its weight, the tinctures prove in no large doſes ſtrongly emetic, and in ſmaller ones powerfully diaphoretic. The regulus has been caſt into the form of pills, which acted as violent cathartics, though without ſuffering any ſenſible diminution of weight in their paſſage through the body; and this repeatedly, for a great number of times.

This metal, reduced to a calx, becomes indiſſoluble and inactive. The calx, nevertheleſs, urged with a ſtrong fire, melts into a glaſs, which is as eaſy of ſolution, and as violent in operation as the regulus itſelf: the glaſs, thoroughly mixed with ſuch ſubſtances as prevent its ſolubility, as wax, reſins, and the like, is again rendered mild.

Vegetable acids, as has already been obſerved, diſſolve but an extremely minute portion of this metal: the ſolution nevertheleſs is powerfully emetic and cathartic. The nitrous and vitriolic acids only corrode it into a powder, to which they adhere ſo ſlightly as to be ſeparable in a conſiderable degree by water, and totally by fire, leaving a calx ſimilar to that prepared by fire. The muriatic acid has a very different effect; this reduces the regulus into a violent corroſive; and though it difficultly unites, yet it adheres ſo very cloſely as not to be ſeparable by any ablution, nor by fire, and the regulus ariſes along with it in diſtillation.

Sulphur remarkably abates the power of this metal: and hence crude antimony, in which the regulus is combined with ſulphur, from one-fourth to one half of its weight, proves altogether mild. If a part of the ſulphur be taken away, by ſuch operations as do not deſtroy or calcine the metal, the remaining maſs becomes proportionally more active.

The ſulphur of antimony may be expelled by deflagration with nitre; the larger the quantity of nitre, to a certain point, the more of the ſulphur will be diſſipated, and the preparation will be the more active. If the quantity of nitre be more than ſufficient to conſume the ſulphur, the reſt of it, deflagrating with the regulus itſelf, renders it again mild.

The ſulphur of antimony is likewiſe abſorbed, in fuſion, by certain metals, and by alkaline ſalts. Theſe laſt, when united with ſulphur, prove a menſtruum for all the metals (zinc excepted); and hence, if the fuſion be long continued, the regulus is taken up, and rendered ſoluble in water.

From theſe particulars with reſpect to antimony, it may naturally be concluded, that it not only furniſhes us with an uſeful and active medicine, but that it may alſo be exhibited for medical purpoſes under a great variety of different forms, and that the effects of theſe will be conſiderably diverſified. When treating of antimony in the materia medica, we have not only offered ſome obſervations on its medical virtues, but have alſo exhibited a view of its different preparations for medical purpoſes, thrown into a tabular form by Dr Black; which we ſhall proceed to deſcribe in particular.

ANTIMONIUM CALCINATUM.

Lond.

Calcined Antimony.

Take of

Antimony, powdered, eight ounces;

Nitre, powdered, two pounds.

Mix them, and caſt the mixture by degrees into a red hot crucible. Burn the white matter about half an hour; and, when cold, powder it: after which waſh it with diſtilled water.

In the laſt edition of the London Pharmacopœia this preparation had the name of *calx antimonii*; and it may be conſidered as at leaſt very nearly approaching to ſome other antimonials of the old pharmacopœias, particularly to the *antimonium diaphoreticum nitratum*, *antimonium diaphoreticum lotum*, and the *nitrum ſtibiatum*; none of which are now received as ſeparate formulas of our pharmacopœias, and indeed even the calx antimonii itſelf, at leaſt as thus prepared, has now no place in the Edinburgh pharmacopœia.

The calx of antimony, when freed by waſhing from the ſaline matter, is extremely mild, if not altogether inactive. Hoffman, Lemery and others, aſſure us, that they have never experienced from it any ſuch effects as its old name *antimonium diaphoreticum* imports; Boerhaave declares, that it is a mere metallic earth, entirely deſtitute of all medicinal virtue: and the Committee of the London College admit, that it has no ſenſible operation. The common doſe is from five grains to a ſcruple, or half a drachm; though Wilſon relates, that he has known it given by half ounces, and repeated two or three times a day, for ſeveral days together.

Some report that this calx, by keeping for a length of time, contracts an emetic quality: From whence it has been concluded, that the powers of the reguline part are not entirely deſtroyed; that the preparation has the virtues of other antimonials which are given as alteratives; that is, in ſuch ſmall doſes as not to ſtimulate the primæ viæ; and that therefore calcined antimony, is certainly among the mildeſt preparations of that mineral, and may be uſed for children, and ſimilar delicate conſtitutions, where the ſtomach and inteſtines are eaſily affected. The obſervation, however, from which theſe concluſions are drawn, does not appear to be well founded: Ludovici relates, that after keeping the powder for four years, it proved as mild as at firſt: and the Straſburgh pharmacopœia with good reaſon ſuſpects that where the calx has proved emetic, it had either been given in ſuch caſes as would of themſelves have been attended with this ſymptom, (for the great alexipharmac virtues attributed to it have occaſioned it to be exhibited even in the more dangerous malignant fevers, and other diſorders which are frequently accompanied with vomiting), or that it had not been ſufficiently calcined, or perfectly freed from ſuch part of the regulus as might remain uncalcined. The uncalcined part being groſſer than the true calx, the ſeparation is effected by often waſhing with water, in the ſame manner as directed for ſeparating earthy powders from their groſſer parts.

It has been obſerved, that when diaphoretic antimony is prepared with nitre abounding with ſea-ſalt, of which all the common nitre contains ſome portion, the medicine has proved violently emetic. This effect is not owing to any particular quality of the ſea ſalt, but to its quantity, by which the proportion of the nitre to the antimony is rendered leſs.

Notwithſtanding the doubts entertained reſpecting the activity of the antimonium calcinatum, yet the London college have done right in retaining it. For while it is on all hands allowed, to be the mildeſt of our antimonials; there are ſome accurate obſervers who conſider it as by no means inefficacious. Thus Dr Healde tells us, that he has been in the habit of employing it for upwards of forty years, and is much deceived, if when genuine it be not productive of good effects.

ANTIMONIUM USTUM CUM NITRO, vulgo CALX ANTIMONII NITRATA.

Edinb.

Nitrated Calx of Antimony.

Take of
Antimony, calcined for making the glaſs of antimony :
Nitre, equal weights.
Having mixed, and put them into a crucible, let them be heated, ſo that the matter ſhall be of a red colour for an hour ; then let it be taken out of the crucible, and, after powdering it, let it be repeatedly waſhed with warm water till it be inſipid.

As the effects of every preparation of antimony, not already conjoined with an acid, muſt depend on the quantity and condition of the acid in the ſtomach, ſo the ablution of the baſe of the nitre in this proceſs, gives full power to the acid of the ſtomach to act as far as poſſible on the calx : whereas when the unwaſhed calx is employed, a great quantity of the acid in the ſtomach is neutraliſed by the alkaline baſe of the nitre adhering to the calx.

Although this preparation has been conſidered as being nearly a complete calx of antimony, yet it is a medicine of a much more active nature than the former ; and in place of being one of the mildeſt of the antimonials, it often operates with great violence when given in doſes of only a few grains.

It has been thought by ſome preferable to emetic tartar, where the permanent effects of a long-continued nauſea are required, and where we wiſh our antimonials to paſs the pylorus and produce purging ; but, like every other preparation where the reguline part is only rendered active by the acid in the ſtomach, it is in all caſes uncertain in operation : ſometimes proving perfectly inert, and at other times very violent in its effects. The doſe is generally ten or twelve grains, and this is often given all at once ; an inconvenience not attending the emetic tartar ; the quantity and effects of which we can generally meaſure with ſurpriſing minuteneſs.

CROCUS ANTIMONII.

Lond.

Crocus of Antimony.

Take of
Antimony, powdered :
Nitre, powdered, of each one pound ;
Sea ſalt, one ounce.
Mix, and put them by degrees into a red hot crucible, and melt them with an augmented heat. Pour out the melted matter : and, when cold, ſeparate it from the ſcoriæ.

CROCUS ANTIMONII, vulgo CROCUS METALLORUM.

Edinb.

Crocus of Antimony, commonly called *Crocus of Metals*.

Take of
Antimony,
Nitre, equal weights.
After they are ſeparately powdered and well mixed, let them be injected by degrees into a red-hot crucible ; when the detonation is over, ſeparate the reddiſh metallic matter from the whitiſh cruſt ; powder it and edulco-

edulcorate it by repeated waſhings with hot water, till the water comes off inſipid.

Here the antimonial ſulphur is almoſt totally conſumed, and the metallic part left diveſted of its corrector. Theſe preparations, in doſes of from two to ſix grains, generally act as violent emetics, greatly diſordering the conſtitution. But the operation, like that of every preparation of antimony whoſe reguline part is not joined with an acid, muſt be liable to variations, according to the quantity and condition of the acid in the ſtomach. Their principal uſe is in maniacal caſes, or as the baſis of ſome other preparations; it is much uſed by the ferriers, who frequently give to horſes an ounce or two a day, divided into different doſes, as an alterative; in theſe, and other quadrupeds, this medicine acts chiefly as a diaphoretic.

The chemiſts have been accuſtomed to make the crocus with a leſs proportion of nitre than what is directed above; and without any farther melting than what enſues from the heat which the matter acquires by deflagration, which when the quantity is large, is very conſiderable: a little common ſalt is added by the London College to promote the fuſion. The mixture is put by degrees into an iron pot or mortar, ſomewhat heated, and placed under a chimney: when the firſt ladlefull is in, a piece of lighted charcoal is thrown to it, which ſets the matter on fire; the reſt of the mixture is then added by little and little; the deflagration is ſoon over, and the whole appears in perfect fuſion: when cold, a conſiderable quantity of ſcoriæ is found on the ſurface, which are eaſily knocked off with a hammer.

ANTIMONIUM MURIATUM.
Lond.
Muriated Antimony.

ANTIMONIUM MURIATUM, vulgo BUTYRUM ANTIMONII.
Edin.
Muriated Antimony, commonly called, *Butter of Antimony.*

Take of
- Crocus of antimony, powdered,
- Vitriolic acid, each one pound;
- Dry ſea-ſalt, two pounds.

Pour the vitriolic acid into a retort, adding by degrees the ſea ſalt and crocus of antimony, previouſly mixed; then diſtil in a ſand-bath. Let the diſtilled matter be expoſed to the air ſeveral days, and then let the fluid part be poured off from the dregs.

The muriated antimony or butter, as it is called, is a ſolution of the metallic part of the antimony in the muriatic acid. This ſolution does not ſucceed with muriatic acid in its ordinary ſtate, and cannot be effected, unleſs either the acid be highly concentrated, and both the ingredients ſtrongly heated; or when the antimony is expoſed to the vapours of the acid diſtilled from the black calx of mangancſe. By this laſt proceſs a perfect ſolution of the regulus of antimony in the muriatic acid is effected. Of this more ſimple, more ſafe, and leſs expenſive method of preparing muriated antimony, an account is given by Mr Ruſſel in the Tranſactions of the Royal Society of Edinburgh ; Vol. i.

The method, however now directed by both the colleges is preferable to any of the other methods of preparing it, being very nearly the ſame with Scheele's proceſs which is given in the Pharmacopœia Suecica.

When the congealed matter that ariſes into the neck of the retort is liquefied by the moiſture of the air, it proves leſs corroſive then when melted down and rectified by heat ; though, it ſeems, in either caſe, to be ſufficiently ſtrong for the purpoſes of conſuming fungous fleſh and the callous lips of ulcers. It is remarkable, that though this ſaline concrete readily and almoſt entirely diſſolves by the humidity of the air, only a ſmall quantity of white powder ſeparating, it nevertheleſs will not diſſolve directly in water : even when previouſly liquefied by the air, the addition of water will precipitate the ſolution. And accordingly, by the addition of water is formed that once celebrated article known by the title of *mercurius vitæ*, or *Algaroth's powder*. This preparation, though never uſed by itſelf, is employed both by the Edinburgh and by ſome of the foreign colleges, in the formation of emetic tartar, the moſt uſeful of all the antimonials.

PULVIS ANTIMONIALIS.
Lond.
Antimonial powder.

Take of
Antimony, coarſely powdered ;
Hartſhorn-ſhavings, each two pounds.

ANTIMONIUM CALCAREO PHOSPHORATUM, ſive PULVIS ANTIMONIALIS.
Edin.
Calcareo-Phoſphorated Antimony, or *Antimonial powder*.

Take of
Antimony, in coarſe powder, two pounds ;
Saw-duſt of bones, ivory, or hartſhorn, two pounds.

Mix, and put them into a wide red-hot iron pot, ſtirring conſtantly till the maſs acquires a grey colour. Powder the matter when cold, and put it into a coated crucible. Lute to it another crucible inverted, which has a ſmall hole in its bottom : augment the fire by degrees to a red heat, and keep it ſo for two hours. Laſtly, reduce the matter, when cold, to a very fine powder.

This preparation is the genuine James's powder, than which ſcarcely any patent medicine more attracted the attention of the medical practitioners and the people of England. Its efficacy in curing fevers ſoon brought it into celebrity ; and it was at firſt frequently uſed by the patients without the approbation of the attending phyſicians ; afterwards however we find phyſicians of reſpectibility and experience preſcribing this powder, without knowing what peculiar preparation it was, any farther than that it was ſome kind of calx of antimony. It could not be prepared by following the directions of the ſpecification depoſited in the Court of Chancery by Dr James when he took out his patent ; hence *fidelis* was an epithet which, although it ought to be eſſential to every phyſician, could not with propriety be beſtowed on him : And, what farther ſhews his diſpoſition to deceive, it was not, at the time he took out his patent, a new medicine or preparation, but was fully deſcribed by phyſicians and chemiſts upwards of 120 years before. About thirty years had elapſed, ſince its being introduced into practice in Britain, before its real compoſition became known, for which the world is indebted to the ingenious Dr Pearſon of London, who has analytically and ſynthetically demonſtrated, by a very great number and variety of well contrived experiments, that James's powder is a compound of calx of antimony and phoſphorated lime. Dr Pearſon's paper, containing an account of theſe experiments, was read in the Royal Society at London on June 23d, 1791.

This powder is given as an alterative and ſudorific in doſes of about five, ſix, or ſeven grains ; in which quantity it frequently produces nauſea and ſometimes vomiting and purging. Its principal uſe is in removing obſtructions or ſuppreſſions of the inſenſible perſpiration which ſo often produce fevers ; and hence its great efficacy in putting a ſtop to the progreſs of ſeveral fevers, or in preventing them from coming on after taking cold.

SULPHUR ANTIMONII PRÆCIPITATUM.

Lond.

Precipitated ſulphur of Antimony.

Take of

Antimony, powdered, two pounds;

Water of pure kali, four pints ;

Diſtilled water, three pints.

Mix, and boil them with a ſlow fire for three hours, conſtantly ſtirring, and adding diſtilled water as it ſhall be wanted ; ſtrain the hot ley through a double linen cloth, and into the liquor, while yet hot, drop by degrees as much diluted vitriolic acid as is ſufficient to precipitate the ſulphur. Waſh off the vitriolated kali with warm water.

SULPHUR ANTIMONII PRÆCIPITATUM, vulgo SULPHUR AURATUM ANTIMONII.

Edin.

Precipitated ſulphur of Antimony, commonly called *Golden ſulphur of antimony.*

Take of

Cauſtic ley, four pounds ;

Water, three pounds;

Antimony powdered two pounds.

Boil them in a covered iron pot for three hours, adding more water if neceſſary, frequently ſtirring the mixture with an iron ſpatula : ſtrain the liquor while warm through a double cloth, and add as much diluted vitriolic acid as is neceſſary to precipitate the ſulphur, which muſt be well waſhed with plenty of water.

THE foregoing preparations are not ſtrictly ſulphurs ; they contain a conſiderable quantity of the metallic part of the antimony, which is reducible from them by proper fluxes. Theſe medicines muſt needs be liable to great variation in point of ſtrength ; and in this reſpect they are, perhaps, the moſt precarious, though ſome have affirmed that they are the moſt certain, of the antimonial medicines.

They prove emetic when taken on an empty ſtomach, in a doſe of four, five or ſix grains; but at preſent they are ſcarcely preſcribed with this intention; being chiefly uſed as alterative deobſtruents, particularly in cutaneous diſorders. Their emetic quality is eaſily blunted, by making them up into pills with reſins or extracts, and giving them on a full ſtomach: with theſe cautions, they have been taken in the quantity of ſixteen grains a-day, and continued for a conſiderable time, without occaſioning any diſturbance upwards or downwards. As their ſtrength is precarious, they ſhould be taken at firſt in very ſmall doſes, and increaſed by degrees according to their effect.

A compoſition of ſulphur of antimony and calomel (See Pilulæ Hydrargyri Muriata Mitis Compositæ) has been found a powerful and ſafe alterative in cutaneous diſorders; and has been productive of good effects in ſome obſtinate venereal complaints.

ANTIMONIUM TARTARISATUM.

Lond.

Tartariſed Antimony.

Take of

Crocus of antimony, powdered, one pound and an half;

Cryſtals of tartar, two pounds;

Diſtilled water, two gallons.

Boil in a glaſs veſſel about a quarter of an hour: filter through paper, and ſet aſide the ſtrained liquor to cryſtalliſe.

ANTIMONIUM TARTARISATUM, vulgo TARTARUS EMETICUS.

Edin.

Tartariſed antimony, commonly called *Emetic Tartar.*

Take of

Muriated antimony what quantity you pleaſe; pour it into warm water, in which a proper quantity of purified lixive has been previouſly diſſolved, that the antimonial powder may be precipitated, which after being well waſhed is to be dried.

Then to five pounds of water add of this powder nine drachms, and of cryſtals of tartar, in very fine powder, two ounces and a half; boil for a little till the powders be diſſolved.

Let the ſtrained ſolution be ſlowly evaporated in a glaſs veſſel to a pellicle, ſo that cryſtals may be formed.

We have here two modes of making the moſt uſeful of all the antimonial preparations, long known in the ſhops under the name of *emetic tartar*. Theſe modes differ conſiderably from each other; but in both, the antimony is united with the acid of the tartar. The proceſs given in the London college is nearly the ſame with that in former editions of their Pharmacopœia, while that now adopted by the Edinburgh college is of later date. Good emetic tartar is without doubt produced by either of them; but when the precipitate from the muriatic acid is uſed, there is the leaſt chance of the medicine being uncertain in point of ſtrength: and this method comes recommended to us on the authority of Bergman, Scheele, and ſome other of the firſt names in chemiſtry. Bergman adviſes, that the calx be precipitated by ſimple water, as being leaſt liable to variation, and this is the direction followed in the Pharmacopœia Roſſica. But when the calx is precipitated by an alkaline ley, as is directed by the Edinburgh college, it is more entirely freed from the muriatic acid, and will of courſe be milder.

In the after part of the proceſs, whether precipitate or crocus have been uſed, the quantity of the antimonial ought always to be ſome drachms more than is abſolutely neceſſary for ſaturating the acid of the tartar, ſo that no cryſtals may ſhoot which are not impregnated with the antimony. After the cryſtals are all ſeparated from the liquor, they ought to be rubbed together in a glaſs mortar into a fine powder, that the medicine may be of uniform ſtrength.

Emetic tartar is, of all the preparations of antimony, the moſt certain in its operation.

It will be ſufficient, in conſidering the medicinal effects of antimonials, that we ſhould obſerve, once for all, that their emetic property depends on two different conditions of the reguline part: the firſt is where the reguline part is only active, by being rendered ſo from meeting with an acid in the ſtomach: the ſecond is, where the reguline part is already joined with an acid rendering it active. It is obvious that thoſe preparations, reducible to the firſt head, muſt always be of uncertain operation, Such then is the equal uncertainty in the chemical condition and medicinal effects of the croci, the hepata, and the calces; all of which proceſſes are different ſteps or degrees of freeing the reguline part from ſulphur and calcining it. It is equally plain, that the preparations coming under the ſecond head, muſt be always conſtant and certain in their operation. Such a one is emetic tartar, the doſe and effects of which we can meaſure with great exactneſs. It is one of the beſt of the antimonial emetics, acting more powerfully than the quantity of crocus contained in it would do by itſelf, though it does not ſo much ruffle the conſtitution.

The doſe of emetic tartar, when deſigned to produce the full effect of an emetic, is from two to four grains. It may likewiſe be advantageouſly given in much ſmaller doſes, as a nauſeating and ſudorific medicine.

ANTIMONIUM VITRIFICATUM.

Lond.

Vitrified Antimony.

Take of
  Powdered antimony, four ounces.

Calcine it in a broad earthen veſſel with a fire gradually raiſed, ſtirring it with an iron rod until it no longer emits ſmoke. Put this powder into a crucible, ſo as to fill two thirds of it. A cover being fitted on, make a fire under it, at firſt moderate, afterwards ſtronger, until the matter be melted. Pour out the melted glaſs.

VITRUM ANTIMONII.

Edin.

Glaſs of Antimony.

Strew antimony, beat into a coarſe powder like ſand, upon a ſhallow unglazed earthen veſſel, and apply a gentle heat underneath, that the antimony may be heated ſlowly: keeping it at the ſame time continually ſtirring to prevent it from running into lumps. White vapours of a ſulphureous ſmell will ariſe from it. If they ceaſe to exhale with the degree of heat firſt applied, increaſe the fire a little, ſo that vapours may again ariſe: go on in this manner, till the powder, when brought to a red heat, exhales no more vapours. Melt this powder in a crucible with an intenſe heat, till it aſſumes the appearance of melted glaſs; then pour it out on a heated braſs plate or diſh.

The calcination of antimony, in order to procure tranſparent glaſs, ſucceeds very ſlowly, unleſs the operator be wary and circumſpect in the management of it. The moſt convenient veſſel is a broad ſhallow diſh, or a ſmooth flat tile, placed under a chimney. The antimony ſhould be the purer ſort, ſuch as is uſually found at the apex of the cones; this groſsly powdered, is to be evenly ſpread over the bottom of the pan, ſo as not to lie above a quarter of an inch thick on any part. The fire ſhould be at firſt no greater than is juſt ſufficient to raiſe a fume from the antimony, which is to be now and then ſtirred: when the fumes begin to decay, increaſe the heat, taking care not to raiſe it ſo high as to melt the antimony, or run the powder into lumps: after ſome time the veſſel may be made red-hot, and kept in this ſtate until the matter will not, upon being ſtirred, any longer fume. If this part of the proceſs be duly conducted, the antimony will appear in an uniform powder, without any lumps, and of a grey colour.

With this powder fill two-thirds of a crucible, which is to be covered with a tile, and placed in a wind-furnace. Gradually increaſe the fire till the calx be in perfect fuſion, when it is to be now and then examined by dipping a clean iron wire into it. If the matter which adheres to the end of the wire appears ſmooth and equally tranſparent, the vitrification is completed, and the glaſs may be poured out upon a hot ſmooth ſtone or copper-plate, and ſuffered to cool ſlowly to prevent its cracking and flying in pieces. It is of a tranſparent yellowiſh red colour.

The glaſs of antimony uſually met with in the ſhops, is ſaid to be prepared with certain additions; which may, perhaps, render it not ſo fit for the purpoſe here deſigned. By the method above directed, it may be eaſily made of the requiſite perfection without any addition.

As antimony may be rendered nearly or altogether inactive by calcination, it might be expected that the calx and glaſs of the preſent proceſs would be likewiſe inert. But here the calcination is far leſs perfect than in the other caſe, when the regulus is deflagrated with nitre: there the calx is of perfect whiteneſs, and a glaſs made from that calx (with the addition of any ſaline flux, for of itſelf it will not vitrify) has little colour: but here the calx is grey, and the glaſs of a high colour. The calcined antimony is ſaid by Boerhaave to be violently emetic. Experience has ſhewn that the glaſs is ſo much ſo as to be unſafe for internal uſe. At preſent it is chiefly employed in forming ſome other antimonial preparations, particularly the *Vitrum antimonii ceratum*, the next article to be mentioned:

tioned; and the *vinum antimonii*, afterwards to be treated of under the head of Wines. It is alſo frequently employed in the formation of emetic tartar; and it was directed for that purpoſe in a former edition of the Edinburgh pharmacopœia.

VITRUM ANTIMONII CERATUM.

Edinb.

Cerated Glaſs of Antimony.

Take of
- Yellow wax, a drachm;
- Glaſs of antimony, reduced into powder, an ounce.

Melt the wax in an iron veſſel, and throw into it the powdered glaſs: keep the mixture over a gentle fire for half an hour, continually ſtirring it; then pour it out on paper, and when cold grind it into powder.

The glaſs melts in the wax with a very gentle heat: after it has been about twenty minutes on the fire, it begins to change its colour, and in ten more comes near to that of Scottiſh ſnuff; which is a mark of its being ſufficiently prepared; the quantity ſet down above, loſes about one drachm of its weight in the proceſs.

This medicine was for ſome time much eſteemed in dyſenteries: ſeveral inſtances of its good effects in theſe caſes may be ſeen in the fifth volume of the Edinburgh Eſſays. The doſe is from two or three grains to twenty, according to the age and ſtrength of the patient. In its operation, it makes ſome perſons ſick, and vomit; it purges almoſt every one; though it has ſometimes effected a cure without occaſioning any evacuation or ſickneſs. It is now, however, much leſs uſed than formerly.

Mr Geoffroy gives two pretty ſingular preparations of glaſs of antimony, which ſeem to have ſome affinity with this. One is made by digeſting the glaſs, very finely levigated, with a ſolution of maſtich made in ſpirit of wine, for three or four days, now and then ſhaking the mixture; and at laſt evaporating the ſpirit ſo as to leave the maſtich and glaſs perfectly mixed. Glaſs of antimony thus prepared, is ſaid not to prove emetic, but to act merely as a cathartic, and that not of the violent kind. A preparation like this was firſt publiſhed by Hartman, under the name of *Chyliſta*.

The other preparation is made by burning ſpirit of wine on the glaſs three or four times, the powder being every time exquiſitely rubbed upon a marble. The doſe of this medicine is from ten grains to twenty or thirty: it is ſaid to operate mildly both upwards and downwards, and ſometimes to prove ſudorific.

CERUSSA ANTIMONII.

Brun.

Ceruſſe of Antimony.

Take of
- Regulus of antimony, one part;
- Nitre, three parts.

Deflagrate them together in the manner directed for the antimonium calcinatum.

The reſult of this proceſs and that formerly directed for the calcined antimony are nearly the ſame.

It is not neceſſary to uſe ſo much nitre here, as when antimony itſelf is employed: for the ſulphur which the crude mineral contains, and which requires for its diſſipation nearly an equal weight of nitre to the antimony, is here already ſeparated. Two parts of nitre to one of the regulus are ſufficient. It is better, however, to have an over than an under proportion of nitre, leſt ſome parts of the regulus ſhould eſcape being ſufficiently calcined.

KERMES MINERALE.

Suec.

Kermes Mineral.

Take of

- Crude antimony, powdered, half a pound;
- Fixed vegetable alkali, two pounds;
- Boiling water, eight pounds.

Boil them together in an iron pot for a quarter of an hour, continually ſtirring the mixture with an iron ſpatula, and filter as ſpeedily as poſſible while it is hot. The filtered liquor ſet in a cool place, will ſoon depoſite a powder which muſt be repeatedly waſhed, firſt with cold, and afterwards with warm, water until it be perfectly inſipid.

This medicine has long been greatly eſteemed, eſpecially in France, under the names of *Kermes mineral*, *Pulvis Cartheuſianus*, *Poudre des Chartreux*, &c. It was originally a preparation of Glauber, and for ſome time kept a great ſecret, till at length the French king purchaſed the preparation from M. de Laligerie, for a conſiderable ſum, and communicated it to the public in the year 1720. In virtue, it is not different from the ſulphurs abovementioned; all of them owe their efficacy to a part of the regulus of the antimony, which the alkaline ſalt, by the mediation of the ſulphur, renders ſoluble in water.

Chemiſts are, however, divided in their opinions with reſpect to the preciſe chemical condition of the reguline part in the preparations called *Hepata antimonii.* Some have alleged that they contain not a particle of alkaline ſalt: It is at any rate certain, that the quantity and condition of the reguline part muſt vary according to the different proportions of the ingredients, the time of the precipitation, the greater or leſs degree of cauſticity of the alkali employed, and ſeveral other circumſtances. At beſt, the whole of them are liable to the ſame uncertainty in their operation as the calces of antimony.

PANACEA ANTIMONII.

Panacea of Antimony.

Take of

- Antimony, ſix ounces;
- Nitre, two ounces;
- Common ſalt, an ounce and a half;
- Charcoal, an ounce.

Reduce them into a fine powder, and put the mixture into a red hot crucible, by half a ſpoonful at a time, continuing the fire a quarter of an hour after the laſt injection: then either pour the matter into a cone, or let it cool in the crucible; which when cold muſt be broken to get it out. In the bottom will be found a quantity of regulus; above this a compact liver-coloured ſubſtance; and on the top, a more ſpongy maſs: this laſt is to be reduced in-

into powder, edulcorated with water, and dried, when it appears of a fine golden colour.

This preparation is ſuppoſed to have been the baſis of *Lockyer's pills*, which were formerly a celebrated purge. Ten grains of the powder, mixed with an ounce of white ſugar-candy, and made up into a maſs with mucilage of gum tragacanth, may be divided into an hundred ſmall pills; of which one, two, or three, taken at a time, are ſaid to work gently by ſtool and vomit.

CHAP. XI.

PRÆPARATA EX ARGENTO.

PREPARATIONS OF SILVER.

ARGENTUM NITRATUM.
Lond.
Nitrated Silver.

Take of
Silver, one ounce;
Dilute nitrous acid, four ounces.

Diſſolve the ſilver in the nitrous acid, in a glaſs veſſel with a ſand heat; then evaporate with an heat gently raiſed; afterwards melt the reſiduum in a crucible, carefully avoiding too great a heat, and pour it into proper moulds.

ARGENTUM NITRATUM, vulgo CAUSTICUM LUNARE.
Edin.
Nitrated Silver, commonly called *Lunar Cauſtic.*

Take of
Pureſt ſilver, beat thin and cut in pieces, four ounces;
Dilute nitrous acid, eight ounces;
Diſtilled water, four ounces.

Diſſolve the ſilver in a phial with a gentle heat, and evaporate the ſolution to dryneſs. Then put the maſs into a large crucible, and apply the heat, at firſt gently, but augment it by degrees till the maſs flows like oil; then pour it into iron moulds, previouſly heated, and greaſed with tallow. The lunar cauſtic muſt be kept in well ſtopt phials.

These proceſſes do not differ in any material particular.

Strong nitrous acid will diſſolve about half its weight of pure ſilver; and the diluted acid formerly deſcribed, proportionally leſs according to its quantity of pure nitrous acid. Sometimes this acid contains a portion of the vitriolic, or muriatic acid; which, however minute, renders it unfit for diſſolving this metal, and ſhould therefore be carefully ſeparated before the ſolution be attempted. The method which the refiners employed for examining the purity of their aquafortis (for ſo they call a mixture of equal parts of pure nitrous acid, and water,) and purifying it if neceſſary, is to let fall into it a few drops of a perfect ſolution of ſilver already made: if the liquor remain clear, and grow not in the leaſt turbid or whitiſh, it is fit for uſe; otherwiſe, they add a ſmall quantity more of the ſolution, which immediately turns the whole of a milky white colour; the mixture being then ſuffered to reſt for ſome time, depoſites a white ſediment; from which it is warily decanted, examined afreſh, and, if need be, farther purified by a freſh addition of the ſolution.

The ſilver beat into thin plates as directed in the ſecond of the above proceſſes, needs not be cut in pieces: the ſolution will go on the more ſpeedily, if they are only turned round into ſpiral circumvolutions, ſo as to be conveniently got into the glaſs, with care that the ſeveral ſurfaces do not touch each other. By this management, a greater extent of the ſurface is expoſed to the action of the menſtruum, than when the plates are cut in pieces and laid above each other. It is neceſſary to employ very pure water; for moſt ſaline matters precipitate a part of the ſilver.

The crucible ought to be large enough to hold five or ſix times the quantity of the dry matter; for it bubbles and ſwells up greatly, and is conſequently apt to run over. During this time, alſo, little drops are now and then ſpirted up, whoſe cauſticity is increaſed by their heat, againſt which the operator ought therefore to be on his guard. The fire muſt be kept moderate till this ebullition ceaſes, and till the matter becomes conſiſtent in the heat that made it boil before: then quickly increaſe the fire till the matter flows thin at the bottom like oil, when it is to be immediately poured into the mould, without waiting till the fumes ceaſe to appear; for when this happens, the preparation proves not only too thick to run freely into the mould, but is likewiſe leſs corroſive than it ought to be.

For want of a proper iron mould, one may be formed of tobacco-pipe clay, not too moiſt, by making in a lump of it, with a ſmooth ſtick firſt greaſed, as many holes as there is occaſion for: pour the liquid matter into theſe cavities, and when congealed take it out by breaking the mould. Each piece is to be wiped clean from the greaſe, and to keep the air from acting on them, they muſt be ſpeedily put into well ſtopt phials.

This preparation is a ſtrong cauſtic; and is frequently employed as ſuch, for conſuming warts and other fleſhy excreſcences, keeping down fungous fleſh in wounds or ulcers, and other ſimilar uſes. It is rarely applied where a deep eſchar is required, as in the laying open of impoſthumations and tumours; for the quantity neceſſary for theſe purpoſes, liquefying by the moiſture of the ſkin, ſpreads beyond the limits within which it is intended to operate.

PILULÆ LUNARES.

The Lunar Pills.

Diſſolve pure ſilver in aquafortis, as in the foregoing proceſs; and after due evaporation, ſet the liquor to cryſtalliſe. Let the cryſtals be again diſſolved in common water, and mixed with a ſolution of equal their weight of nitre. Evaporate this mixture to dryneſs, and continue the exſiccation with a gentle heat, keeping the matter conſtantly ſtirring till no more fumes ariſe.

HERE it is neceſſary to continue the fire till the fumes entirely ceaſe, as more of the acid is required to be diſſipated than in the preceding proceſs. The preparation is, nevertheleſs, in taſte very ſharp, intenſely bitter and nauſeous: applied to ulcers, it acts as a cauſtic, but it is much milder than the foregoing. Boerhaave, Boyle, and others, commend it highly in hydropic caſes. The former aſſures us, that two grains of it made into a pill with crumb of bread and a little ſugar, and taken on an empty ſtomach (ſome warm water, ſweetened with honey, being drank immediately after), purge gently without griping, and bring away a large quantity of water, almoſt without the patient's perceiving it: that it kills worms, and cures many inveterate ulcerous diſorders. He nevertheleſs cautions againſt uſing it too freely, or in too large a doſe; and obſerves, that it always proves corroſive and weakening to the ſtomach.

CHAP. XII.

PRÆPARATA E FERRO.

PREPARATIONS OF IRON.

FERRI LIMATURA PURIFICATA.

Edin.

Purified Iron filings.

Cover the filings with a piece of gauze, or with the bottom of a fine ſieve, and through this draw the iron filings with a magnet.

This is a very effectual method of purifying iron filings from braſs and other matters with which they may be accidentally mixed. The magnet, if held over the filings, is apt to attract the filings in bunches or cluſters, which may entangle in them ſand or other metals: but by drawing them through the gauze, they come up ſingle, and conſequently perfectly pure.

FERRI SQUAMÆ PURIFICATÆ.

Edin.

Purified Iron Scales.

Let Iron Scales (collected at the foot of a Blackſmith's anvil) be purified by means of a magnet. The magnet will attract only the ſmaller and more pure ſcales, leaving the larger and more impure behind.

The gauze is uſeleſs in this caſe, becauſe the ſcales are a calx of iron, and not ſo violently attracted by the magnet as the iron in its metallic ſtate is; hence they are not liable to be drawn up in bunches as the filings are.

FERRUM AMMONIACALE.

Lond.

Ammoniacal Iron.

Take of
Iron filings, one pound;
Sal ammoniac, two pounds.

Mix, and ſublime. What remains at the bottom of the veſſel mix by rubbing together with the ſublimed matter, and again ſublime.

FERRUM AMMONIATUM, vulgo FLORES MARTIALES.

Edin.

Ammoniated Iron, commonly called *martial flowers.*

Take of
- Burnt vitriolated Iron waſhed and well dried;
- Sal ammoniac, equal weights.

Having mixed them well, ſublime.

Though the mode of preparation directed by the two colleges is here different, yet the preparation is fundamentally the ſame; and it is perhaps difficult to ſay which mode of preparation is to be preferred as the eaſieſt and beſt.

The ſucceſs of this proceſs depends principally on the fire being haſtily raiſed, that the ſal ammoniac may not ſublime before the heat be great enough to enable it to carry up a ſufficient quantity of the iron. Hence glaſs veſſels are not ſo proper as earthen or iron ones; for when the former are uſed, the fire cannot be raiſed quickly enough without endangering the breaking of them. The moſt convenient veſſel is an iron pot; to which may be luted an inverted earthen jar, having a ſmall hole in its bottom to ſuffer the elaſtic vapours, which ariſe during the operation, to eſcape. It is of advantage to thoroughly mix the ingredients together, moiſten them with a little water, and then gently dry them; and to repeat the pulveriſation, humectation, and exſiccation two or three times or oftener. If this method be followed, the ſal ammoniac may be increaſed to three times the quantity of the iron, or farther; and a ſingle ſublimation will often be ſufficient to raiſe flowers of a very deep orange colour.

This preparation is ſuppoſed to be highly aperient and attenuating; though no otherwiſe ſo than the reſt of the chalybeates, or at moſt only by virtue of the ſaline matter joined to the iron. It has been found of ſervice in hyſterical and hypochondriacal caſes, and in diſtempers proceeding from a laxity and weakneſs of the ſolids, as the rickets. From two or three grains to ten may be conveniently taken in the form of a bolus: it is nauſeous in a liquid form (unleſs in ſpirituous tincture); and occaſions pills to ſwell and crumble, except ſuch as are made of the gums.

FERRI RUBIGO.

Lond.

Ruſt of Iron.

Take of
- Iron filings, one pound.

Expoſe them to the air, often moiſtening them with water, until they be corroded into ruſt; then powder them in an iron mortar, and waſh off with diſtilled water the very fine powder.

But the remainder, which cannot by moderate rubbing be reduced into a powder capable of being eaſily waſhed off, muſt be moiſtened, expoſed to the air for a longer time, and again powdered and waſhed as before. Let the waſhed powder be dried.

FERRI RUBIGO, vulgo FERRI LIMATURA PREPARATA.
Edinb.
Ruſt of Iron, commonly called *Prepared Iron-filings.*

Set purified Iron filings in a moiſt place, that they may turn to ruſt, which is to be ground into an impalpable powder.

The ruſt of iron is preferable as a medicine to the calces, or croci, made by a ſtrong fire. Hoffman relates, that he has frequently given it with remarkable ſucceſs in obſtinate chlorotic caſes accompanied with exceſſive headachs and other violent ſymptoms; and that he uſually joined with it pimpinella, arum root, and ſalt of tartar, with a little cinnamon and ſugar. The doſe is from four or five grains to twenty or thirty. Some have gone as far as a drachm: But all the preparations of this metal anſwer beſt in ſmall doſes, which ſhould be rather often repeated than enlarged.

FERRUM TARTARISATUM.
Lond.
Tartariſed Iron.

Take of
Of iron filings one pound;
Powdered cryſtals of tartar, two pounds.
Mix them with diſtilled water into a thick paſte. Expoſe it to the air in an open earthen veſſel for eight days; then dry the matter in a ſand bath, and reduce it to a very fine powder.

This is an uſeful preparation of iron; in which that metal is brought to a ſaline ſtate by means of the cream of tartar. It has now for the firſt time a place in the London pharmacopœia; but it had before been introduced into ſome of the foreign ones, particularly the Pharmacopœia Genevenſis, under the title of *mars tartariſatus*; and indeed it is preciſely the ſame with the *mars ſolubilis* of the old editions of the Edinburgh pharmacopœia.

This very elegant and uſeful preparation of iron, will, in many caſes, take effect where the others have failed, on account of its great ſolubility. It may be given in a liquid form, or in a bolus in doſes of from five grains to a ſcruple twice or thrice a day.

FERRUM VITRIOLATUM.
Lond.
Vitriolated Iron.

Take of
Iron filings,
Vitriolic acid, each eight ounces;
Diſtilled water, three pints.
Mix them in a glaſs veſſel; and, when the efferveſcence has ceaſed, place the mixture for ſome time upon hot ſand; then pour off the liquor, ſtraining it through paper; and, after due exhalation, ſet it aſide to cryſtallize.

FERRUM VITRIOLATUM, vulgo SAL CHALYBIS.
Edinb.
Vitriolated Iron, commonly called *Salt of Steel.*

Take of
Purified iron filings, ſix ounces;
Vitriolic acid, eight ounces;
Water, two pounds and a half.
Mix them, and when the efferveſ-

cence ceaſes, let the mixture ſtand for ſome time upon warm ſand; then ſtrain the liquor through paper, and after due evaporation ſet it aſide to cryſtallize.

During the diſſolution of the iron an elaſtic vapour ariſes, known by the name of inflammable air, which on the approach of flame catches fire and explodes, ſo as ſometimes to burſt the veſſel. To this particular therefore the operator ought to have due regard.

The chemiſts are ſeldom at the trouble of preparing this ſalt according to the directions above given; but in its ſtead ſubſtitute common green vitriol, purified by ſolution in water, filtration, and cryſtalliſation. The only difference between the two is, that the common vitriol contains ſomewhat more metal in proportion to the acid: and hence in keeping, its green colour is much ſooner debaſed by a ruſty browniſh caſt. The ſuperfluous quantity of metal may be eaſily ſeparated, by ſuffering the ſolution of the vitriol to ſtand for ſome time in a cold place, when a browniſh yellow ochery ſediment will fall to the bottom; or it may be perfectly diſſolved, and kept ſuſpended by a ſuitable addition of vitriolic acid. If the vitriol be ſuſpected to contain any cupreous matter, which the common Engliſh vitriol ſeldom does, though moſt all the foreign vitriols do, the addition of ſome bright iron wire to the ſolution will both diſcover, and effectually ſeparate, that metal: for the acid quits the copper to diſſolve a proportional quantity of the iron; and the copper, in its ſeparation from the acid, adheres to the undiſſolved iron, and forms a ſkin of a true copper colour on its ſurface. Even a vitriol of pure copper may, on this principle, be converted into a pure vitriol of iron.

Although the vitriolic acid appears in this operation to have ſo much ſtronger a diſpoſition to unite with iron than with copper, that it totally rejects the latter when the former is preſented to it; the operator may nevertheleſs, give a dangerous impregnation of copper to the pureſt and moſt ſaturated ſolution of iron in the vitriolic acid, by the uſe of copper veſſels. If the martial ſolution be boiled in a copper veſſel, it never fails to diſſolve a part of the copper, diſtinguiſhable by its giving a cupreous ſtain to a piece of bright iron immerſed in it. By the addition of the iron, the copper is ſeparated; by boiling it again without iron, more of the copper is diſſolved; and this may in like manner be ſeparated by adding more iron.

The vitriolated iron is one of the moſt efficacious preparations of this metal; and frequently uſed in cachectic and chlorotic caſes, for exciting the uterine purgations, ſtrengthening the tone of the viſcera, and deſtroying worms. It may be conveniently taken in a liquid form, largely diluted with water: Boerhaave directs it to be diſſolved in an hundred times its weight of water, and the ſolution to be taken in the doſe of twelve ounces on an empty ſtomach, walking gently after it. Thus managed, he ſays, it opens the body, proves diuretic, kills and expels worms, tinges the excrements black, or forms them into a matter like clay, ſtrengthens the fibres, and thus cures many different diſtempers. The quantity of vitriol in the above doſe of the ſolution, is fifty ſeven grains and a half; but in common practice, ſuch large doſes of this ſtrong chalybeate are never ventured on. Four or five grains, and in many caſes half a grain, are ſufficient for the intention in which chalybeate medicines are given. Very dilute ſolutions, as that of a grain of the ſalt in a pint of water, may be uſed as ſuccedanea to the natural chalybeate waters, and will in many caſes produce ſimilar effects.

FERRUM VITRIOLATUM EXSICCATUM, vulgo VITRIOLUM CALCINATUM.

Edin.

Dried Vitriolated Iron, commonly called *Calcined vitriol.*

Take of
- Vitriolated iron, as much as you pleaſe.

Let it be calcined in an unglazed earthen veſſel, with a moderate heat, till it becomes white and perfectly dry.

FERRUM VITRIOLATUM USTUM, vulgo COLCOTHAR VITRIOLI.

Edin.

Burnt Vitriolated Iron, commonly called *Colcothar of Vitriol.*

Let dried vitriolated iron be urged with a violent fire till it becomes of a very red colour.

The colcothar is very rarely employed by itſelf for medical purpoſes; but it is uſed in the preparation of ſome other chalybeates, particularly the *Ferrum ammoniatum* of the Edinburgh college.

ÆTHIOPS MARTIALIS.

Gen.

Martial Ethiops.

Take of
- Ruſt of iron, as much as you pleaſe;
- Olive oil, a ſufficient quantity to make it into a paſte.

Let this be diſtilled in a retort by a ſtrong fire to dryneſs. Keep the reſiduum reduced to a fine powder in a cloſe veſſel.

An article under this name had formerly a place in ſome of the old pharmacopœias, and is deſcribed by Lemery in the Memoirs of the French Academy; but it was formed by a tedious proceſs, continued for ſeveral months by the aid of water. Here the proceſs is much ſhorter, and is ſuppoſed to give nearly the ſame product. Some have recommended it, on the ſuppoſition that the iron is here obtained in a very ſubtile ſtate: but it is not in general ſuppoſed to have any advantage over the other more common chalybeates.

C H A P. XIII.

PRÆPARATA EX HYDRARGYRO.

PREPARATIONS OF QUICKSILVER.

WE have already treated of quickſilver or mercury at ſome length in the Materia Medica; and have there given a view of the different mercurial preparations, in the London and Edinburgh pharmacopœias, reduced to the form of a table.

Mercury or quickſilver, in its crude ſtate, is a ponderous metallic fluid, totally volatile in a ſtrong fire, and calcinable by a weak one (though very difficultly) into a red powdery ſubſtance. It diſſolves in the nitrous acid, is corroded by the vitriolic, but not acted on by the muriatic in its ordinary ſtate: it nevertheleſs may be combined with this laſt ſkilfully applied in the form of fume. Quickſilver unites by trituration, with earthy, unctuous, reſinous, and other ſimilar ſubſtances, ſo as to loſe its fluidity: triturated with ſulphur, it forms a black maſs, which by ſublimation changes into a beautiful red one.

The general virtues of the mercurial preparations we have already endeavoured to ſtate under the article Hydrargyrus in the Materia Medica. Here it is ſufficient to obſerve, that while in certain circumſtances they act as ſtimulants, and even as corroſives, on the parts to which they are applied; under a different management, when introduced into the habit, they ſeem to forward circulation through even the ſmalleſt and moſt remote veſſels of the body; and may be ſo managed as to promote all the excretions. But while they thus operate as a powerful ſtimulus to the ſanguiferous, and probably alſo to the lymphatic ſyſtem, they ſeem to exert but little influence on the nervous ſyſtem. By this means they prove eminently ſerviceable in ſome inveterate chronical diſorders, proceeding from obſtinate obſtructions of the glands. Crude mercury does not act on the human body unleſs it be reſolved into fumes, or divided into minute particles, and prevented from reuniting by the interpoſition of other ſubſtances, unleſs the dividing body be ſulphur, which reſtrains its action.

Combined with a ſmall quantity of the mineral acids, it acts effectually, though in general mildly; with a larger, it proves violently corroſive.

HYDRARGYRUS PURIFICATUS.

Lond.

Purified Quickſilver.

Take of
  Quickſilver,
  Iron filings, each four pounds.
Rub them together, and diſtil from an iron veſſel.

As in the diſtillation of quickſilver glaſs retorts are very liable to be broken, an iron one is here with propriety directed: and by the addition of the iron filings, matters which might otherwiſe ariſe with the quickſilver will be more apt to be detained in the retort, But ſtill this happens ſo readily, even merely with the degree of heat neceſſary to elevate the mercury, that it is very doubtful whether much advantage be obtained from this proceſs; and accordingly it has no place in the pharmacopœia of the Edinburgh college.

HYDRARGYRUS ACETATUS.

Lond. Edin.

Acetated Quickſilver.

Take of
  Quickſilver;
  Dilute nitrous acid, of each half a pound;
  Acetated vegetable alkali, three ounces;
  Warm water, two pounds and an half.
Digeſt the quickſilver with a gentle heat in the dilute nitrous acid for twenty four hours, or till it be diſſolved. Pour the nitrated quickſilver, thus prepared, into the ſolution of the acetated vegetable alkali in the warm water (at about 90 degrees), ſo that the acetated quickſilver may be formed, which is to be waſhed with cold water, and afterwards diſſolved in a ſufficient quantity of warm water. Filter this ſolution, and ſet it aſide that cryſtals may be formed.

This is a caſe of a double elective attraction, by which we combine quickſilver with the acetous acid, which was thought to be extremely difficult, if not impoſſible, till lately. The ſalt formed by this union is ſuppoſed to be much milder than any other ſaline preparation of quickſilver, and is the baſis of the celebrated pill prepared and ſold by Keyſer. So great was the reputation of this pill, that the ſecret was purchaſed by the French King, and directions for preparing it publiſhed by authority.

The proceſs here deſcribed is much leſs operoſe than that dilivered by Mr. Keyſer, and furniſhes a true acetated quickſilver.

HYDRARGYRUS CALCINATUS.

Lond.

Calcined Quickſilver.

Take of
  Purified quickſilver, one pound.
Expoſe the quickſilver, in a flat-bottomed glaſs cucurbit, to an heat of about 600 degrees, in a ſand-bath, till it becomes a red powder.

This preparation, as thus ordered, is a very tedious one, requiring ſeveral months to complete it in. As the free acceſs of freſh air promotes the calcination, the quickſilver ought to be expoſed to the heat in a broad ſhallow veſſel and not in a cucurbit. To this, objections have however been made, ſaying, that, if the heat be accidentally raiſed too high, part of the quickſilver would evaporate, which, when a curcubit is uſed, being condenſed in the neck of the veſſel, falls down again into the cucurbit.

This preparation is highly eſteemed in venereal caſes, and ſuppoſed to be the moſt efficacious and certain of all the mercurials. It may be advantageouſly given in conjunction with opiates: a bolus or pill, containing from half a grain to two grains of this calx, and a quarter, half a grain, or more, of opium, with the addition of ſome warm aromatic ingredient, may be taken every night. Thus managed, it acts mildly, though powerfully, as an alterative and diaphoretic; given by itſelf in larger doſes, as four or five grains, it proves a rough emetic and cathartic.

HYDRARGYRUS PRÆCIPITATUS CINEREUS, vulgo PULVIS MERCURII CINEREUS.

Edinb.

Aſh coloured precipitate of quickſilver, commonly called *Aſh-coloured powder of mercury.*

Take of
Quickſilver,
Dilute nitrous acid, equal weights.

Mix them ſo as to diſſolve the quickſilver; dilute the ſolution with pure water, and add water of ammonia as much as is ſufficient to ſeparate the mercury perfectly from the acid: then waſh the powder with pure water, and dry it.

In this proceſs the nitrated quickſilver is decompoſed; the precipitate, therefore, is a calx of mercury, and the clear liquor a ſolution of nitrous ammoniac. There are ſeveral niceties to be obſerved in conducting this proceſs. If we employ too ſmall a proportion of acid, and aſſiſt the ſolution by heat, the ſolution will contain an exceſs of calx capable of being ſeparated by the water; and the whole precipitate from ſuch a ſolution would be of a white colour. If, on the other hand, we employ too large a proportion of acid, the mercury is then ſo far calcined as to be capable of being diſſolved by the volatile alkali: and this might happen in proportion as the quantity ſhould be ſuperabundant to the neutraliſation of the acid. The uſe of the water is to diſſolve the nitrous ammoniac as faſt as it is formed, and thereby prevent it from falling down and mixing with the precipitate. It is neceſſary to employ the pureſt water.

The *Pulvis mercurii cinereus* has of late years been much celebrated for the cure of venereal affections. From the teſtimony of Dr Home, and ſeveral other practitioners, it is doubtleſs a very valuable preparation of mercury. It may be given in a bolus in the quantity of from one to ſix or ſeven grains: the doſe being gradually increaſed according to its effects.

HYDRARGYRUS CUM CRETA.

Lond.

Quickſilver and chalk.

Take of
Purified quickſilver, three ounces;
Powdered chalk, five ounces.
Rub them together until the globules diſappear.

This preparation had no place in the former editions of the London pharmacopœia. A preparation, nearly ſimilar indeed, under the title of Mercurius Alkaliſatus, in which crabs eyes were employed inſtead of chalk, had a place in the old editions of the Edinburgh pharmacopœia, but was rejected from the edition of 1744, and has never again been reſtored. One reaſon for rejecting it was its being liable to groſs abuſe in the preparation, by the addition of ſome intermedium, facilitating the union of mercury with the abſorbent earth, but diminiſhing or altering its power. The preſent preparation is liable to the ſame objection. Some, however, are of opinion, that when duly prepared, it is an uſeful alterative. But there can be little doubt, that the abſorbent earth, by deſtroying acid in the alimentary canal, will diminiſh the activity of the mercury.

HYDRARGYRUS MURIATUS.

Lond.

Muriated Quickſilver.

Take of
Purified quickſilver, two pounds;
Vitriolic acid, thirty ounces;
Dried ſea-ſalt, four pounds.
Mix the quickſilver with the acid, in a glaſs veſſel, and boil in a ſand-heat until the matter be dried. Mix it when cold, with the ſea-ſalt, in a glaſs veſſel; then ſublime in a glaſs cucurbit, with a heat gradually raiſed. Laſtly, let the ſublimed matter be ſeparated from the ſcoriæ.

HYDRARGYRUS MURIATUS CORROSIVUS, vulgo MERCURIUS SUBLIMATUS CORROSIVUS.

Edin.

Muriated corroſive quickſilver, commonly called *Sublimate corroſive Mercury.*

Take of
Quickſilver,
Dilute nitrous acid, of each four ounces;
Dry ſea-ſalt;
Dried vitriolated iron, of each five ounces.
Diſſolve the quickſilver in the nitrous acid, and evaporate the ſolution to a white and thoroughly dry maſs; then add the ſea-ſalt and vitriolated iron. Having ground and mixed them well together, put the whole into a phial, one half of which they ought to fill; then ſublime in ſand, firſt with a gentle, but afterwards with an increaſed heat.

The ſublimate prepared by either of theſe methods is the ſame: they both conſiſt only of quickſilver and the acid of the ſea-ſalt united together, the other ingredients being of no farther uſe in this proceſs, than as convenient and proper intermedia for facilitating the union of the quickſilver with the muriatic acid.

Our apothecaries rarely, and few even of the chemiſts, attempt the making of this preparation themſelves; greateſt part of what is uſed among us comes from Venice and Holland. This foreign ſublimate has been reported to be adulterated with arſenic. Several chemiſts have denied the poſſibility of this union, ſaying that arſenic, and corroſive ſublimate will not ariſe together in ſublimation. This may be true or not, but ſurely the ſublimate may be mixed with arſenic after the ſublimation. Various methods have been given for detecting this adulteration; none of them however are to be depended on, except the following. Let ſome of the ſublimate, powdered in a glaſs mortar, be well mixed with twice its weight of black flux, and a little filings or ſhavings of iron; put the mixture into a crucible capable of holding four or five times as much; give a gradual fire till the ebullition ceaſes, and then haſtily increaſe it to a white heat. If no fumes of a garlic ſmell can be perceived during the proceſs, and if the particles of iron retain their form without any of them having been melted, we may be ſure that the mixture contains no arſenic.

Sublimate is a moſt violent corroſive, ſoon corrupting and deſtroying all the parts of the body it touches. A ſolution of about a drachm of it in a quart of water is uſed for keeping down proud fleſh, and cleanſing foul ulcers; and a more dilute ſolution as a coſmetic, and for deſtroying cutaneous inſects. But a great deal of caution is requiſite even in theſe external uſes of it.

Some have nevertheleſs ventured to give a tenth or an eight of a grain of it internally. Boerhaave relates, that if a grain of it be diſſolved in an ounce or more of water, and a drachm of this ſolution, ſweetened with ſyrup of violets, be taken twice or thrice a-day, it will prove efficacious in many diſtempers thought incurable; but he particularly cautions us not to venture upon it, unleſs the method of managing it be well known.

Sublimate, diſſolved in vinous ſpirit, has been given internally in larger doſes; from a quarter of a grain to half a grain. This method of uſing it was brought into repute by Baron Van Swieten at Vienna, eſpecially for venereal maladies; and ſeveral trials of it have alſo been made in this kingdom with ſucceſs. Eight grains of the ſublimate are diſſolved in ſixteen ounces of rectified ſpirit of wine or proof ſpirit; the rectified ſpirit diſſolves it more perfectly, and ſeems to make the medicine milder in its operation than the proof ſpirit of the original preſcription of Van Swieten. Of this ſolution, from one or two ſpoonfuls, that is, from half an ounce to an ounce, are given twice a day, and continued till all the ſymptoms are removed; obſerving to uſe a low diet, with plentiful dilution, otherwiſe the ſublimate is apt to purge, and gripe ſeverely. It generally purges more or leſs at the beginning, but afterwards ſeems to operate chiefly by urine and perſpiration.

CALOMELAS.

Lond.

Calomel.

Take of

Muriated quickſilver, one pound:
Purified quickſilver, nine ounces.

Rub them together till the globules diſappear, and then ſublime the maſs. In the ſame manner repeat the ſublimation four times. Afterwards rub the matter into a very fine powder, and waſh it by pouring on boiling diſtilled water.

HYDRARGYRUS MURIATUS MITIS, vulgo CALOMELAS, ſive MERCURIUS DULCIS.
Edin.

Mild Muriated Quickſilver, commonly called *Calomel,* or *Sweet Mercury.*

Take of
- Muriated corroſive quickſilver, reduced to a powder in a glaſs mortar, four ounces ;
- Pure quickſilver, three ounces and a half.

Mix them well together, by long trituration in a glaſs or marble mortar, until the quickſilver ceaſes to appear. Put the powder into an oblong phial, of ſuch a ſize, that only one-third of it may be filled ; and ſet the glaſs in ſand, that the maſs may ſublime. After the ſublimation break the glaſs, and the red powder which is found in its bottom, with the whitiſh one that ſticks about the neck, being thrown away, let the remaining maſs be ſublimed again three or four times, and reduced to a very fine powder.

The trituration of corroſive ſublimate with quickſilver is a very noxious operation : for it is almoſt impoſſible, by any care, to prevent the lighter particles from riſing ſo as to affect the operator's eyes and mouth. It is nevertheleſs of the utmoſt conſequence, that the ingredients be perfectly united before the ſublimation is begun. It is neceſſary to pulveriſe the ſublimate before the mercury is added to it ; but this may be ſafely performed, with a little caution ; eſpecially if during the pulveriſation the matter be now and then ſprinkled with a little ſpirit of wine : this addition does not at all impede the union of the ingredients, or prejudice the ſublimation : it will be convenient not to cloſe the top of the ſubliming veſſel with a cap of paper at firſt (as is uſually practiſed) but to defer this till the mixture begins to ſublime, that the ſpirit may eſcape.

The rationale of this proceſs deſerves particular attention ; and the more ſo, as a miſtaken theory herein has been productive of ſeveral errors with regard to the operation of mercurials in general. It is ſuppoſed, that the dulcification, as it is called, of the *mercurius corroſivus*, is owing to the ſpiculæ or ſharp points, on which its corroſiveneſs depends, being broken and worn off by the frequent ſublimations. If this opinion were juſt, the corroſive would become mild, without any addition, barely by repeating the ſublimation ; but this is contrary to all experience. The abatement of the corroſive quality of the ſublimate is entirely owing to the combination of as much freſh mercury as is capable of being united with it ; and by whatever means this combination be effected, the preparation will be ſufficiently dulcified. Triture and digeſtion promote the union of the two, while ſublimation tends rather to diſunite them. The prudent operator, therefore, will not be ſolicitous about ſeparating ſuch mercurial globules as appear diſtinct after the firſt ſublimation : he will endeavour rather to combine them with the reſt, by repeating the triture and digeſtion.

The college of Wirtemberg require their *mercurius dulcis* to be only twice ſublimed; and the Auguſtan, but once; and Neumann propoſes making it directly by a ſingle ſublimation, from the ingredients of the corroſive ſublimate, by only taking the quickſilver in a larger proportion.

If the medicine made after either of theſe methods, ſhould prove in any degree acrid, water boiled on it for ſome time will diſſolve and ſeparate that part in which its acrimony conſiſts. The marks of the preparation being ſufficiently dulcified are its being perfectly inſipid to the taſte, and indiſſoluble by long boiling in water. Whether the water, in which it has been boiled, has taken up any part of it, may be known by dropping into the liquor a ley of any alkaline ſalt: if the decoction has any mercurial impregnation, it will grow turbid on this addition; if otherwiſe, it will continue limpid. But here care muſt be taken not to be deceived by any extraneous ſaline matter in the water itſelf: moſt of the common ſpring waters turn milky on the addition of alkalies, and therefore, for experiments of this kind, diſtilled water or rain water ought to be uſed.

This name of *Calomel*, though for a conſiderable time baniſhed from our beſt pharmacopœias, is again reſtored by the London college.

Calomel, or *mercurius dulcis*, may be conſidered as one of the moſt uſeful of the mercurial preparations; and it may be eſtimated as holding an intermediate place between the *hydrargyrus acetatus*, or the mildeſt of the ſaline preparations, and the *hydrargyrus muriatus*, or corroſive ſublimate, one of the moſt acrid of them.

HYDRARGYRUS MURIATUS MITIS.

Lond.

Mild muriated Quickſilver.

Take of
Purified quickſilver,
Dilute nitrous acid, of each half a pound.

Mix in a glaſs veſſel, and ſet it aſide until the quickſilver be diſſolved. Let them boil, that the ſalt may be diſſolved. Pour out the boiling liquor into a glaſs veſſel, containing a boiling hot ſolution of four ounces of ſea-ſalt in eight pints of water.

After a white powder has ſubſided to the bottom of the veſſel, let the liquor ſwimming at the top be poured off, and the remaining powder be waſhed till it becomes inſipid, with frequent affuſions of hot water; then dried on blotting paper with a gentle heat.

HYDRARGYRUS MURIATUS PRECIPITATUS.

Edin.

Precipitated muriated Quickſilver.

Take of
Dilute nitrous acid, eight ounces;
Quickſilver, eight ounces or a little more.

Pour them into a chemical phial looſely covered, and let them ſtand for an hour, avoiding the vapours. Afterwards place the phial in a ſand bath for four hours, gradually increaſing the heat till the mixture boils for about a quarter of an hour, frequently ſhaking the veſſel occaſionally. If the quickſilver be all diſſolved it will be neceſſary to add more, that the ſolution may be a perfectly ſaturated one. This ſolution muſt be poured boiling hot into another veſſel, containing a boiling hot ſolution of four ounces and an half of ſea ſalt in eight pounds of water. The mixture muſt be performed quickly, and with a briſk agitation of the veſſel in which it is made. When the precipitate has ſubſided, pour off the liquor, and waſh the precipitate well by frequent additions of boiling water and ſubſequent decantations, until no ſaline taſte is perceptible.

THIS preparation had a place in former editions of the London and Edinburgh pharmacopœias, under the name of *Mercurius dulcis precipitatus*; but the proceſs as now given is ſomewhat altered, being that of Mr Scheele of Sweden, who has recommended this as an eaſy and expeditious method of preparing ſweet mercury or calomel.

It appears from ſeveral teſts, that this precipitate is equal in every reſpect to that prepared by the preceding proceſſes: it is leſs troubleſome and expenſive, and the operator is not expoſed to the noxious duſt ariſing from the triture of the quickſilver with the corroſive ſublimate, which neceſſarily happens by the common method. The powder is alſo finer than can be made from the common ſublimed ſweet mercury by any trituration whatever. The clear liquor ſtanding over the precipitate, is a ſolution of cubic or rhomboidal nitre.

Mercurius dulcis, which may be conſidered as preciſely the ſame with the *calomelas* and *hydrargyrus muriatus mitis*, appears to be one of the beſt and ſafeſt preparations of this mineral, when intended to act as a quick and general ſtimulant. Many of the more elaborate proceſſes are no other than attempts to produce from mercury ſuch a medicine as this really is. The doſe, recommended by ſome for raiſing a ſalivation, is ten or fifteen grains taken in the form of a bolus or pills, every night or oftener, till the ptyaliſm begins. As an alterant and diaphoretic, it has been given in doſes of five or ſix grains; a purgative being occaſionally interpoſed, to prevent its affecting the mouth. It anſwers, however, much better when given in ſmaller quantities, as one, two, or three grains every morning and evening, in conjunction with ſuch ſubſtances as determine its action to the ſkin, as the extract or reſin of guaiacum; the patient at the ſame time keeping warm, and drinking liberally of warm, diluent liquors. By this method of managing it, obſtinate cutaneous and venereal diſtempers have been ſucceſsfully cured, without any remarkable increaſe of the ſenſible evacuations. It is ſometimes, however, difficult to meaſure its effects in this way; and it is ſo very apt to run off by the inteſtines, that we can ſeldom adminiſter it in ſuch a manner as to produce thoſe permanent effects which are often required, and which we are able to do by other preparations. It has been lately propoſed to rub the gums and inſide of the mouth with this preparation, as a ready and effectual method of producing ſalivation: this practice has been particularly recommended in the internal hydrocephalus, where it is exceedingly difficult to excite a ſalivation by other means; but its advantages are not fully confirmed by experience: and the good effects of mercury in hydrocephalus, are rather to be attributed to the mercury, having been introduced into the ſyſtem in an active ſtate, and thus promoting abſorption, than to the diſcharge by ſalivation.

HYDRARGYRUS NITRATUS RUBER.
Lond.
Red nitrated Quickſilver.

Take of
Purified quickſilver,
Nitrous acid, of each one pound;
Muriatic acid, one drachm.

Mix in a glaſs veſſel, and diſſolve the quickſilver in a ſand-bath; then raiſe the fire until the matter be formed into red cryſtals.

HYDRARGYRUS NITRATUS RUBER, vulgo MERCURIUS PRÆCIPITATUS RUBER.
Edin.
Red nitrated Quickſilver, commonly called *Red precipitated Mercury.*

Take of
Quickſilver,
Dilute nitrous acid, of each one pound.

Let the quickſilver be diſſolved in the acid, and then let the ſolution be evaporated to a white dry maſs. This being beat into a powder, muſt be put into a glaſs cucurbit, and ſubjected to a fire gradually increaſed, continually ſtirring the maſs with a glaſs rod, that it may be equally heated, till a ſmall quantity of it taken out in a glaſs ſpoon and allowed to cool, aſſumes the form of ſhining red ſquamæ; when the veſſel is to be removed from the fire.

The muriatic acid in the menſtruum, ordered in the firſt proceſs, diſpoſes the mercurial calx to aſſume the bright ſparkling look admired in it; which, though perhaps no advantage to it as a medicine, ought nevertheleſs to be inſiſted on by the buyer as a mark of its goodneſs and ſtrength. As ſoon as the matter has gained this appearance, it ſhould be immediately removed from the fire, otherwiſe it will ſoon loſe it again.

This precipitate is an eſcharotic, and with this intention it is frequently employed by the ſurgeons, for conſuming fungous fleſh in ulcers, and the like purpoſes. It is ſubject to great uncertainty in point of ſtrength; more or leſs of the acid exhaling, according to the degree and continuance of the fire. The beſt criterion of its ſtrength, as already obſerved, is its brilliant appearance; which is alſo the mark of its genuineneſs: if mixed with minium, which it is ſometimes ſaid to be, the duller hue will diſcover the abuſe. This admixture may be more certainly detected by means of fire: the mercurial part will totally evaporate, leaving the minium behind.

Some have ventured to give this medicine internally, in venereal, ſcrophulous, and other obſtinate chronic diſorders, in doſes of two or three grains, or more. But certainly the milder mercurials, properly managed, are capable of anſwering all that can be expected from this; without occaſioning violent anxieties, tormina of the bowels, and ſimilar ill conſequences, which the beſt management can ſcarcely prevent this corroſive preparation from ſometimes inducing. The chemiſts have contrived many methods of correcting and rendering it milder, by diveſting it of a portion of the acid; but to no very good purpoſe, as they either leave the medicine ſtill too corroſive, or render it ſimilar to others which are procurable at an eaſier rate.

CALX HYDRARGYRI ALBA.

Lond.

White Calx of Quickſilver.

Take of
- Muriated quickſilver,
- Sal ammoniac,
- Water of kali, each half a pound.

Diſſolve firſt the ſal ammoniac, afterwards the muriated quickſilver in diſtilled water, and add the water of kali. Waſh the precipitated powder until it becomes inſipid.

This preparation is uſed chiefly in ointments: for which intention, its fine white colour is no ſmall recommendation.

HYDRARGYRUS CUM SULPHURE.

Lond.

Quickſilver with Sulphur.

Take of
- Purified quickſilver,
- Flowers of ſulphur, each one pound.

Rub them together until the globules diſappear.

HYDRARGYRUS SULPHURATUS NIGER, vulgo ÆTHIOPS MINERALIS.

Edinb.

Black ſulphurated Quickſilver, commonly called *Ethiops Mineral.*

Take of
- Quickſilver,
- Flowers of ſulphur, each equal weights.

Grind them together in a glaſs or ſtone mortar, with a glaſs peſtle, till the mercurial globules totally diſappear.

An Ethiops is made alſo with a double quantity of mercury.

The union of the mercury and ſulphur might be much facilitated by the aſſiſtance of a little warmth. Some are accuſtomed to make this preparation in a very expeditious manner, by melting the ſulphur in an iron ladle, then adding the quickſilver, and ſtirring them together till the mixture be completed. The ſmall degree of heat here ſufficient, cannot reaſonably be ſuppoſed to do any injury to ſubſtances which have already undergone much greater fires, not only in the extraction from their ores, but likewiſe in the purifications of them directed in the pharmacopœia.

macopœia. In the following proceſs, they are expoſed in conjunction to a ſtrong fire, without ſuſpicion of the compound receiving any ill quality from it. Thus much is certain, that the ingredients are more perfectly united by heat than by the degree of triture uſually beſtowed on them. From the ethiops prepared by triture, part of the mercury is apt to be ſqueezed out on making it into an electuary or pills; from that made by fire, no ſeparation is obſerved to happen.

Ethiops mineral is one of the moſt inactive of the mercurial preparations. Some practitioners, however, have repreſented it as poſſeſſing extraordinary virtues; and moſt people imagine it a medicine of ſome efficacy. But what benefit is to be expected from it in the common doſes of eight or ten grains, or a ſcruple, may be judged from hence, that it has been taken in doſes of ſeveral drachms, and continued for a conſiderable time, without producing any remarkable effect. Sulphur eminently abates the power of all the more active minerals, and ſeems to be at the ſame time reſtrained by them from operating in the body itſelf. Boerhaave, who was in general ſufficiently liberal in the commendation of medicines, diſapproves of the ethiops in very ſtrong terms. The ethiops, with a double proportion of mercury now received into our pharmacopœias, has a greater chance for operating as a mercurial, and probably the quantity of mercury might be ſtill further increaſed to advantage.

HYDRARGYRUS SULPHURATUS RUBER.

Lond.

Red ſulphurated Quickſilver.

Take of
- Quickſilver purified, forty ounces;
- Sulphur, eight ounces.

Mix the quickſilver with the melted ſulphur; and if the mixture takes fire, extinguiſh it by covering the veſſel; afterwards reduce the maſs to powder and ſublime it.

This *Hydragyrus ſulphuratus ruber* is the cinnabar of the former pharmacopœias.

It has been cuſtomary to order a larger quantity of ſulphur than here directed; but ſmaller proportions anſwer better; for the leſs ſulphur, the finer coloured is the cinnabar.

As ſoon as the mercury and ſulphur begin to unite, a conſiderable exploſion frequently happens, and the mixture is very apt to take fire, eſpecially if the proceſs be ſomewhat haſtily conducted. This accident the operator will have previous notice of, from the matter ſwelling up, and growing ſuddenly conſiſtent: as ſoon as this happens, the veſſel muſt be immediately cloſe covered.

During the ſublimation, care muſt be had that the matter riſe not into the neck of the veſſel, ſo as to block up and burſt the glaſs: to prevent this a wide necked bolt head, or rather an oval earthen jar, coated, ſhould be choſen for the ſubliming veſſel. If the former be employed, it will be convenient to introduce at times an iron wire, ſomewhat heated, in order to be the better aſſured that the paſſage is not blocking up; the danger of which may be prevented by cautiouſly raiſing the veſſel higher from the fire.

If the ingredients were pure, no feces will remain: in ſuch caſes, the ſublimation may be known to be over, by introducing a wire as before, and feeling the bottom of the veſſel, which will then be perfectly ſmooth: if any roughneſs or inequalities are perceived, either the mixture was impure, or the ſublimation is not completed: if the latter be the caſe, the wire will ſoon be covered over with the riſing cinnabar.

The preparers of cinnabar in large quantity, employ earthen jars, which in ſhape pretty much reſemble an egg. Theſe are of different ſizes, according to the quantity intended to be made at one ſublimation, which ſometimes amounts to two hundred weight. The jar is uſually coated from the ſmall end almoſt to the middle, to prevent its breaking by the vehemence or irregularity of the fire. The greater part, which is placed uppermoſt, not being received within the furnace, has no occaſion for this defence. The whole ſecret with regard to this proceſs, is the management of the fire, which ſhould be ſo ſtrong as to keep the matter continually ſubliming to the upper part of the jar, without coming out at its mouth, which is covered with an iron plate; care ſhould alſo be taken to put into the ſubliming veſſel only ſmall quantities of the mixture at a time.

The principal uſe of cinnabar is as a pigment. It was formerly held in great eſteem as a medicine in cutaneous foulneſſes, gouty and rheumatic pains, epileptic caſes, &c. but of late it has loſt much of its reputation. It appears to be nearly ſimilar to the ethiops already ſpoken of. Cartheuſer relates, that having given cinnabar in large quantities to a dog, it produced no ſenſible effect, but was partly voided along with the feces unaltered, and partly found entire in the ſtomach and inteſtines on opening the animal. The celebrated Frederick Hoffman, after beſtowing high encomiums on this preparation, as having, in many inſtances within his own knowledge, perfectly cured epilepſies and vertigoes from contuſions of the head (where it is probable, however, that the cure did not ſo much depend on the cinnabar as on the ſpontaneous recovery of the parts from the external injury) obſerves, that the large repeated doſes, neceſſary for having any effect, can be borne only where the firſt paſſages are ſtrong; and that if the fibres of the ſtomach and inteſtines are lax and flaccid, the cinnabar, accumulated and concreting with the mucous matter of the parts, occaſions great oppreſſion; which ſeems to be an acknowledgement that the cinnabar is not ſubdued by the powers of digeſtion, and has no proper medicinal activity. There are indeed ſome inſtances of the daily uſe of cinnabar having brought on a ſalivation; perhaps from the cinnabar uſed in thoſe caſes having contained a leſs proportion of ſulphur than the ſort commonly met with. The regulus of antimony, and even white arſenic, when combined with a certain quantity of common ſulphur, ſeem to have their deleterious power diminiſhed: on ſeparating more and more of the ſulphur, they exert more and more of their proper virulence. It does not ſeem unreaſonable to preſume, that mercury

cury may have its activity varied in the ſame manner; that when perfectly ſatiated with ſulphur, it may be inert, and that when the quantity of ſulphur, is more and more leſſened, the compound may have greater and greater degrees of the proper efficacy of mercurials.

Cinnabar is ſometimes uſed in fumigations againſt venereal ulcers in the noſe, mouth, and throat. Half a drachm of it burnt, and the fume being taken in with the breath, has occaſioned a violent ſalivation. This effect is by no means owing to the medicine as cinnabar: when ſet on fire, it is no longer a mixture of mercury and ſulphur; but mercury reſolved into fume, and blended in part with the volatile vitriolic acid, in either of which circumſtances this mineral, as we have already obſerved, has very powerful effects.

HYDRARGYRUS VITRIOLATUS.
Lond.
Vitriolated Quickſilver.

Take of
Purified quickſilver, one pound;
Vitriolic acid, fifteen ounces.

Mix in a glaſs veſſel, and heat them by degrees, until they unite into a white maſs, which is to be perfectly dried with a ſtrong fire. This matter, on the affuſion of a large quantity of hot diſtilled water, immediately becomes yellow, and falls to powder. Rub the powder carefullly with this water in a glaſs mortar. After the powder has ſubſided, pour off the water; and, adding more diſtilled water ſeveral times, waſh the matter till it becomes inſipid.

HYDRARGYRUS VITRIOLATUS FLAVUS, vulgo TURPETHUM MINERALE.
Edinb.
Yellow vitriolated Quickſilver, commonly called *Turbith mineral.*

Take of
Quickſilver, four ounces;
Vitriolic acid, eight ounces.

Cautiouſly mix them together, and diſtil in a retort, placed in a ſand-furnace, to dryneſs; the white calx, which is left at the bottom, being ground to powder, muſt be thrown into warm water. It immediately aſſumes a yellow colour, but muſt afterwards be purified by repeated ablutions.

The quantity of vitriolic acid formerly directed, was double to that now employed by the Edinburgh college. The reduction made in this article greatly facilitates the proceſs; and the proportions of the London college are perhaps preferable.

Boerhaave directs this preparation to be made in an open glaſs, ſlowly heated, and then placed immediately on burning coals: care being taken to avoid the fumes, which are extremely noxious. This method will ſucceed very well with a little addreſs when the ingredients are in ſmall quantity: but where the mixture is large, it is better to uſe a retort, placed in a ſand-furnace, with a recipient luted to it, containing a ſmall quantity of water. Great care ſhould be taken, when the vitriolic acid begins to bubble, that the heat be ſteadily kept up, without at all increaſing it till the ebullition ceaſes, when the fire ſhould be augmented to the utmoſt degree, that as much as poſſible of the redundant acid may be expelled.

If the matter be but barely exſiccated, it proves a cauſtic ſalt. which in the ablution with water will almoſt all diſſolve, leaving only a little quantity of turbith: the more of the acid that has been diſſipated, the leſs of the remaining mercury will diſſolve, and conſequently the yield of turbith will be greater: fire expelling only ſuch part of the acid as is not completely ſatiated with mercury, while water takes up always, along with the acid a proportional quantity of the mercury itſelf. Even when the matter has been ſtrongly calcined, a part will ſtill be ſoluble: this evidently appears on pouring into the waſhings a little ſolution of fixt alkaline ſalt, which will throw down a conſiderable quantity of yellow precipitate, greatly reſembling the turbith, except that it is leſs violent in operation.

From this experiment it appears, that the beſt method of edulcorating this powder is, by impregnating the water, intended to be uſed in its ablution, with a determined proportion of fixt alkaline ſalt: for by this means, the waſhed turbith will not only turn out greater in quantity, but, what is of more conſequence, will have an equal degree of ſtrength; a circumſtance which deſerves particularly to be conſidered, eſpecially in making ſuch preparations as from an error in the proceſs, may prove too violently corroſive to be uſed with any tolerable degree of ſafety. It is neceſſary to employ warm water if we are anxious for a fine colour. If cold water be uſed, the precipitate will be white.

It is obſervable, that though the ſuperfluous acid be here abſorbed from the mercury by the alkaline ſalt; yet in ſome circumſtances this acid forſakes that ſalt to unite with mercury. If *Tartarus vitriolatus*, or *Kali vitriolatum*, as it is now called, which is a combination of vitriolic acid with fixt alkali, be diſſolved in water, and the ſolution added to a ſolution of mercury in aquafortis, the vitriolic acid will unite with the mercury, and form with it a turbith, which falls to the bottom.

Turbith mineral is a ſtrong emetic, and with this intention operates the moſt powerfully of all the mercurials that can be ſafely given internally. Its action, however, is not confined to the primæ viæ; it will ſometimes excite a ſalivation, if a purgative be not taken ſoon after it. This medicine is uſed chiefly in virulent gonorrhœas, and other venereal caſes, where there is a great flux of humours to the parts. Its chief uſe at preſent is in ſwellings of the teſticle from a venereal affection; and it ſeems not only to act as a mercurial, but alſo, by the ſevere vomiting it occaſions, to perform the office of a diſcutient, by accelerating the motion of the blood in the parts affected. It is ſaid likewiſe to have been employed with ſucceſs, in robuſt conſtitutions, againſt leprous diſorders, and obſtinate glandular obſtructions: the doſe is from two grains to ſix or eight. It may be given in doſes of a grain or two as an alterative and diaphoretic, in the ſame manner as the *Hydrargyrus calcinatus* already ſpoken of. Dr Hope has found that the turbith mineral is the moſt convenient errhine he has had occaſion to employ

This medicine was lately recommended as the moſt effectual preſervative againſt the hydrophobia. It has been alleged there are ſeveral examples of its preventing madneſs in dogs which had been bitten; and ſome of its performing a cure after the madneſs was begun. From ſix or ſeven grains to a ſcruple may be given every day, or every ſecond day, for a little time, and repeated at the two or three ſucceeding fulls and changes of the moon. Some few trials have likewiſe been made on human ſubjects bitten by mad dogs; and in theſe alſo the turbith, uſed either as an emetic or alterative, ſeemed to have good effects.

The waſhings of turbith mineral are uſed by ſome, externally, for the cure of the itch and other cutaneous foulneſſes. In ſome caſes mercurial lotions may be proper, but they are always to be uſed with great caution; this is by no means an eligible one, as being extremely unequal in point of ſtrength; more or leſs of the mercury being diſſolved, as has been obſerved above, according to the degree of calcination The Pharmacopœia of Paris directs a mercurial waſh free from this inconvenience, under the title of *Aqua mercurialis or Mercurius liquidus*. It is compoſed of one ounce of mercury diſſolved in a ſufficient quantity of ſpirit of nitre, and diluted with thirty ounces of diſtilled water. In want of diſtilled water, rain water may be uſed; but of ſpring waters there are very few which will mix with the mercurial ſolution, without growing turbid and precipitating part of the mercury.

SOLUTIO MERCURIALIS SIMPLEX

Jo. Jac. Plenck.

Simple mercurial ſolution.

Take of

Pureſt quickſilver, one drachm;
Gum arabic, two drachms.

Rub them in a ſtone mortar, adding by little and little diſtilled water of fumitory, till the mercury thoroughly diſappear in the mucilage.

Having beat and mixed them thoroughly, add by degrees, and at the ſame time rubbing the whole together,

Syrup of kermes, half an ounce;
Diſtilled water of fumitory, eight ounces.

This mixture was much celebrated by its author as an effectual preparation of mercury, unattended with the inconvenience of producing a ſalivation; and he imagined that this depended on a peculiar affinity exiſting between mercury and mucilage Hence ſuch a conjunction, the hydrargyrum gummoſum, as it has been ſtyled, has been the foundation of mixtures, pills, ſyrups, and ſeveral other formulæ, that were uſed in extemporaneous preſcription or inſerted in different pharmacopœias.

By a long continued triture, mercury ſeems to undergo a degree of calcination; at leaſt its globular appearance is not to be diſcerned by the beſt microſcope; its colour is converted into that of a greyiſh powder; and from the inactive ſubſtance in its globular form, it is now become one of the moſt powerful preparations of this metallic body. The uſe of the gum ſeems to be nothing more, than to afford the interpoſition of a viſcid ſubſtance to keep the particles at a diſtance from each other, till the triture requiſite to produce this change be performed. Dr Saunders has clearly proved, that no real ſolution takes place in this proceſs, and that though a quantity of mercurial particles are ſtill retained in the mixture after the globular parts have been depoſited by dilution with water, yet that this ſuſpended mercurial matter is only diffuſed in the liquor, and capable of being perfectly ſeparated by filtration. That long triture is capable of effecting the above change on mercury, is fully evinced from the well known experiment of Dr Boerhaave, in producing a kind of calcined mercury by expoſing quickſilver incloſed in a phial to the agitation produced by keeping the phial tied to the ſails of a windmill for fourteen years. By incloſing a pound of quickſilver in an iron box, with a quantity of iron nails and a ſmall quantity of water, by the addition of which a greater degree of inteſtine motion is given to the particles of the mercury, and fixing the box to the wheel of a carriage, Dr Saunders obtained, during a journey of four hundred miles, two ounces of a greyiſh powder, or calx of mercury.

On the above accounts we are not to aſcribe the effects of Plenck's ſolution to an intimate diviſion of the globules of mercury, nor to any affinity, nor elective attraction, between gum arabic and mercury; which laſt Mr Plenck has very unphiloſophically ſuppoſed. The ſame thing can be done by means of gum tragacanth, by honey, and by many balſams. It is evidently owing to the converſion of the quickſilver to a calciform nature; but as this will be accompliſhed more or leſs completely, according to the different circumſtances during the triture, it is certainly preferable, inſtead of Plenck's ſolution, to diffuſe in mucilage, or other viſcid matters, a determinate quantity of the *Pulvis cinereus*, or other calx of mercury.

It is proper to take notice, that there is in many inſtances a real advantage in employing mucilaginous matters along with mercurials, theſe being found to prevent diarrhœa and ſalivation to a remarkable degree. So far, then, Mr Plenck's ſolution is a good preparation of mercury, though his chemical rationale is perhaps erroneous. The diſtilled water and ſyrup are of no conſequence to the preparation, either as facilitating the proceſs, or for medicinal uſe.

It is always moſt expeditious to triturate the mercury with the gum in the ſtate of mucilage. Dr Saunders found that the addition of honey was an excellent auxiliary; and the mucilage of gum tragacanth ſeems better ſuited for this purpoſe than gum arabic.

C H A P. XIV.

PRÆPARATA E PLUMBO.

PREPARATIONS OF LEAD.

LEAD readily melts in the fire, and calcines into a duſky powder: which, if the flame is reverberated on it, becomes at firſt yellow, then red, and at length melts into a vitreous maſs. This metal diſſolves eaſily in the nitrous acid, difficultly in the vitriolic, and in ſmall quantity in the vegetable acids; it is alſo ſoluble in expreſſed oil, eſpecially when calcined.

Lead and its calces, while undiſſolved, have no conſiderable effects as medicines. Diſſolved in oils, they are ſuppoſed to be (when externally applied) anti inflammatory and deſiccative. Combined with vegetable acids, they are remarkably ſo; and taken internally prove a powerful though dangerous ſtyptic.

There are two preparations of lead, *red* and *white lead*, as they are commonly called, which are much more extenſively employed in other arts than in medicine, and of courſe they are prepared in large quantities. Theſe formerly ſtood among the preparations in our pharmacopœias. But they are now referred to the materia medica. Accordingly we have already had occaſion to make ſome obſervations with reſpect to them. But we ſhall here inſert from the old editions of the Edinburgh pharmacopœia, the directions there given for preparing them.

MINIUM.
Red Lead.

Let any quantity of lead be melted in an unglaſed earthen veſſel, and kept ſtirring with an iron ſpatula till it falls into a powder, at firſt blackiſh, afterwards yellow, and at length of a deep red colour, in which laſt ſtate it is called *minium*; taking care not to raiſe the fire ſo high as to run the calx into a vitreous maſs.

The preparation of red lead is ſo troubleſome and tedious, as ſcarce ever to be attempted by the apothecary or chemiſt; nor indeed is this commodity expected to be made by them, the preparation of it being a diſtinct branch of buſineſs. The makers melt large quantities of lead at once, upon the bottom of the reverberatory furnace built for this purpoſe, and ſo contrived, that the flame acts on a large ſurface of the metal, which is continually changed by means of iron rakes drawn backwards and forwards, till the fluidity of the lead is deſtroyed; after which, the calx is only now and then turned. By barely ſtirring the calx, as above directed, in a veſſel over the fire, it acquires no redneſs; the reverberation of flame on the ſurface being abſolutely neceſſary for this effect. It is ſaid, that 100 pounds of lead gain, in this proceſs, 12 pounds: and that the calx, being reduced into lead again, is found one pound leſs than the original weight of the metal.

Theſe calces are employed in external applications, for abating inflammations, cleanſing and healing ulcers, and the like.

CERUSSA.

Ceruſſe, or white lead.

Put ſome vinegar into the bottom of an earthen veſſel, and ſuſpend over the vinegar very thin plates of lead, in ſuch a manner that the vapour which ariſes from the acid may circulate about the plates. Set the containing veſſel in the heat of horſe-dung for three weeks; if at the end of this time the plates be not properly calcined, ſcrape off the white powder, and expoſe them again to the ſteam of vinegar, till all the lead be thus corroded into powder.

The making of white lead is alſo become a trade by itſelf, and confined to a few perſons, who have large conveniences for this purpoſe.

In this preparation, the lead is ſo far opened by the acid, as to diſcover, when taken internally, the malignant quality of the metal; and to prove externally, when ſprinkled on running ſores, or ulcers, moderately cooling, drying and aſtringent.

CERUSSA ACETATA.

Lond.

Acetated ceruſſe.

Take of
Ceruſſe, one pound;
Diſtilled vinegar, one gallon.

Boil the ceruſſe with the vinegar until the vinegar is ſaturated; then filter through paper; and, after proper evaporation, ſet it aſide to cryſtalliſe.

CERUSSA ACETATA, vulgo SACCHARUM SATURNI.

Edinb.

Acetated ceruſſe, commonly called *Sugar of lead.*

Put any quantity of ceruſſe into a cucurbit, and pour upon it ten times its quantity of diſtilled vinegar. Let the mixture ſtand upon warm ſand till the vinegar becomes ſweet; when it is to be poured off and freſh vinegar added as often as it comes off ſweet. Then let all the vinegar be evaporated in a glaſs veſſel to the conſiſtence of pretty thin honey, and ſet it aſide in a cold place, that cryſtals may be formed, which are to be afterwards dried in the ſhade The remaining liquor is again to be evaporated that new cryſtals may be formed; the evaporation of the reſiduous liquor is to be repeated till no more cryſtals concrete.

Cerusse (eſpecially that ſort called *flake lead*, which is not, like the others ſubject to adulteration) is much preferable either to minium or litharge, for making the ſugar of lead: for the corroſion, which it has undergone from the ſteam of the vinegar, diſpoſes it to diſſolve more readily. It ſhould be finely powdered before the vinegar be put to it; and during the digeſtion, or boiling, every now and then ſtirred up with a wooden ſpatula, to promote its diſſolution, and prevent its concreting into a hard maſs at the bottom. The ſtrong acid obtained from the *caput mortuum* of vinegar may be employed for this purpoſe to better advantage than the weaker, though purer, acid, above directed. If a ſmall quantity of rectified ſpirit of wine be prudently added to the ſolution as ſoon as it is duly exhaled, and the mixture ſuffered to grow cold by ſlow degrees, the ſugar will concrete into very large and tranſparent cryſtals, which are ſcarcely to be obtained by any other method.

If the cryſtals be dried in ſunſhine, they acquire a blackiſh or livid colour. This ſeems to happen from the abſorption of light. As lead communicates a ſweetneſs and aſtringency very ſimilar to the product of the vinous fermentation, a practice formerly prevailed among fraudulent dealers, of correcting the too great ſharpneſs of acid wines by adulterating them with this metal. The abuſe may be detected in two different ways: a piece of paper may be moiſtened with the liquor to be examined, and then expoſed to the vapours of liver of ſulphur: the moiſtened paper, will become of a livid colour. But the beſt way of making the teſt is, to drop a ſmall quantity of a ſolution of the liver of ſulphur into the ſuſpected liquor: if there be any lead preſent, this addition will inſtantly occaſion the precipitation of a livid or dark coloured cloud.

The ſugar of lead is much more efficacious than the foregoing preparations, in anſwering the ſeveral intentions to which they are applied. Some have ventured upon it internally, in doſes of a few grains, as a ſtyptic, in hæmorrhagies, profuſe colliquative ſweats, ſeminal fluxes, the fluor albus, &c. nor has it failed their expectations. It very powerfully reſtrains the diſcharge; but almoſt as certainly as it does this, it occaſions ſymptoms of another kind, often more dangerous than thoſe removed by it, and ſometimes fatal. Violent pains in the bowels or through the whole body, and obſtinate conſtipations, ſometimes immediately follow, eſpecially if the doſe has been conſiderable: and cramps, tremors, and weakneſs of the nerves generally, ſooner or later, enſue.

Boerhaave was of opinion, that this preparation proves malignant only, as far as its acid happens to be *abſorbed* in the body; for in ſuch caſe, he ſays, "it returns "again into ceruſſe, which is "violently poiſonous." On this principle it would follow, that in habits where acidities abound, the ſugar of lead would be innocent. But this is far from being the caſe. Lead and its preparations act in the body only when they are *combined* with acid: ceruſſe poſſeſſes the qualities of the ſaccharum only in a low degree; and either of them freed from the acid, has little, if any, effect at all. For the ſame reaſons, the ſugar of lead is preferable to the pompous *extract* and *vegeto-mineral water* of Goulard, in which the lead is much leſs perfectly combined in a ſaline ſtate. It is ſometimes convenient to aſſiſt the ſolution of the ſugar of lead in water, by adding a portion of vinegar. The effects of the external application of lead ſeems to differ from the ſtrength of the ſolution: thus a very weak ſolution ſeems to diminiſh directly the action of the veſſels, and is therefore more peculiarly proper in active inflammations, as of the eyes; whereas a ſtrong ſolution operates as a direct ſtimulant, and is therefore more ſucceſsful in paſſive ophthalmia.

AQUA LITHARGYRI ACETATI.

Lond.

Water of acetated Litharge.

Take of
- Litharge, two pounds and four ounces;
- Diſtilled vinegar, one gallon.

Mix, and boil to ſix pints, conſtantly ſtirring; then ſet it aſide. After the feces have ſubſided, ſtrain.

THIS preparation may be conſidered as nearly the ſame with the extract and vegeto-mineral water of Mr Goulard. And it is probably from the circumſtances of his preparations having come into a common uſe, that the London college have given this article a place in their pharmacopœia. It may, however be a matter of doubt whether it be really intitled to a place. For as we have already obſerved, every purpoſe to be anſwered by it may be better obtained from the employment of a ſolution of the ceruſſa acetata in ſimple water. The aqua lithargyri acetati is intended for external uſe only.

CHAP.

C H A P. XV.

PRÆPARATA E STANNO.

PREPARATIONS OF TIN.

TIN eaſily melts in the fire, and calcines into a duſky powder; which, by a farther continuance of the heat becomes white. A maſs of tin heated till it be juſt ready to melt, proves extremely brittle, ſo as to fall in pieces from a blow; and by dexterous agitation into powder. Its proper menſtruum is aqua regia; though the other mineral acids may alſo be made to diſſolve it, and the vegetable ones in ſmall quantity. It cryſtalliſes with the vegetable and vitriolic acids; but with the others, deliquates.

The virtues of this metal are little known. It has been recommended as an antihyſteric, antihectic, &c. At preſent, it is chiefly uſed as an anthelmintic.

PULVIS STANNI.

Lond.

Tin powder.

Take of

Tin, four ounces.

Melt it and take off the film formed on its ſurface; then pour it into a clear iron veſſel, and either by agitation or rubbing reduce it to a powdery ſtate; paſs the finer parts through a hair ſieve.

THE college of Edinburgh do not give this preparation, inſerting *Limatura et Pulvis Stanni* in their liſt of the materia medica. It is often employed as a remedy againſt worms, particularly the flat kinds, which too often elude the force of other medicines. The general doſe is from a ſcruple to a drachm; ſome confine it to a few grains. But Dr Alſton aſſures us, in the Edinburgh Eſſays, that its ſucceſs chiefly depends on its being given in much larger quantities: he directs an ounce of the powder on an empty ſtomach mixed with four ounces of molaſſes; next day, half an ounce and the day following, half an ounce more; after which a cathartic is adminiſtered; he ſays the worms are uſually voided during the operation of the purge, but that pains of the ſtomach occaſioned by them are removed almoſt immediately upon taking the firſt doſe of the tin.

This practice is ſometimes ſucceſsful in the expulſion of tænia, but by no means ſo frequently as Dr Alſton's obſervations would lead us to hope.

STANNI AMALGAMA.

Dan.

Amalgama of Tin.

Take of

Shavings of pure tin, two ounces;

Pure quickſilver, three drachms.

Let them be rubbed to a powder in a ſtone mortar.

Some have imagined that tin thus acted on by mercury, is in a more active condition than when exhibited in the ſtate of powder: and accordingly it has been given in worm caſes. But as both are equally inſoluble in the animal fluids, this is not to be expected; and to obtain any peculiar properties which tin may poſſeſs to their full extent, it will probably be neceſſary to exhibit it in ſome ſaline ſtate.

CHAP. XVI.

PRÆPARATA E ZINCO.

PREPARATIONS OF ZINC.

ZINCUM CALCINATUM.
Lond.
Calcined Zinc.

Take of
Zinc, broken into ſmall pieces, eight ounces.

Caſt the pieces of zinc, at ſeveral times, into an ignited large and deep crucible, placed leaning, or half-upright, putting on it another crucible in ſuch a manner that the air may have free acceſs to the burning zinc.

Take out the calx as ſoon as it appears, and ſeparate its white and lighter part by a fine ſieve.

ZINCUM USTUM, vulgo FLORES ZINCI.
Edin.
Burnt Zinc, commonly called *Flowers of Zinc.*

Let a large crucible be placed in a furnace, in an inclined ſituation, only half upright; when the bottom of the veſſel is moderately red, put a ſmall piece of zinc, about the weight of a drachm into it. The zinc ſoon flames, and is at the ſame time converted into a ſpongy calx, which is to be raked from the ſurface of the metal with an iron ſpatula, that the combuſtion may proceed the more ſpeedily: when the zinc ceaſes to flame, take the calx out of the crucible. Having put in another piece of zinc, the operation may be repeated as often as you pleaſe. Laſtly, the calx is to be prepared like antimony.

These flowers, as uſed externally, are preferable for medicinal purpoſes to tutty, and the more impure ſublimates of zinc, which are obtained in the braſs works; and likewiſe to calamine, the natural ore of this metal, which contains a large quantity of earth, and frequently a portion of heterogeneous metallic matter. The flowers of zinc, have been much celebrated of late years in the cure of epilepſy and ſeveral ſpaſmodic affections: and there are ſufficient teſtimonies of their good effects, where tonic remedies in thoſe affections are proper. They ought to be given at firſt in very ſmall doſes, as a grain or two twice a day; and the doſe gradually increaſed to ſeven or eight grains.

ZINCUM VITRIOLATUM, vulgo VITRIOLUM ALBUM.

Edin.

Vitriolated Zinc, commonly called *White vitriol.*

Take of
- Zinc, cut into ſmall pieces, three ounces;
- Vitriolic acid, five ounces;
- Water, twenty ounces.

Having mixed the acid and water, add the zinc, and when the ebullition is finiſhed ſtrain the liquor; then after proper evaporation ſet it apart in a cold place, that it may ſhoot into cryſtals.

This ſalt is an elegant white vitriol. It differs from the common white vitriol of the ſhops, only in being purer, and perfectly free from any admixture of copper, or other foreign metallic bodies.

ZINCUM VITRIOLATUM.

Lond.

Vitriolated Zinc.

Take of
- White vitriol, one pound;
- Vitriolic acid, one drachm;
- Boiling diſtilled water, three pints.

Mix, and filter through paper. After a proper evaporation, ſet it aſide in a cold place to cryſtalliſe.

Although the Edinburgh college have given a formula for the preparation of white vitriol, yet their direction is very rarely followed by any of the apothecaries or chemiſts, who in general purchaſe it as obtained from the Goſlar mines. When, however, it is got in this way, it is often a very impure ſalt, and requires that purification which is here directed, and which is by no means neceſſary for the white vitriol artificially prepared, in the manner above directed.

CHAP. XVII.

PRÆPARATA E CUPRO.

PREPARATIONS OF COPPER.

COPPER is a reddiſh ſoft metal requiring a very intenſe heat for its fuſion. In its metallic ſtate it produces ſome action on the animal fluids and ſolids. Diſſolved it is externally an eſcharotic, and internally a moſt violent poiſon, unleſs given with great caution and in proper doſes. It is of very eaſy ſolution in all acids and in the volatile alkali.

CUPRUM AMMONIACUM.
Edin.
Ammoniacal Copper.

Take of
Vitriolated copper, two parts;
Prepared ammonia, three parts.

Rub them together in a glaſs mortar, until they unite, after the effervescence ceaſes, into a uniform violet-coloured maſs, which muſt be firſt dried on blotting paper, and afterwards by a gentle heat. The product muſt be kept in a glaſs phial, well cloſed with a glaſs ſtopper.

THIS preparation has been thought ſerviceable in epilepſies; but from its frequent want of ſucceſs and the diſagreeable conſequences with which its uſe is ſometimes attended, it has not lately been much preſcribed. It is employed by beginning with doſes of half a grain, twice a day; and increaſing them gradually to as much as the ſtomach will bear. Dr Cullen ſometimes increaſed the doſe to five gains.

AQUA ÆRUGINIS AMMONIATÆ, vulgo AQUA SAPPHIRINA.
Edin.
Water of Ammoniated verdigris, commonly called *Sapphire water.*

Take of
Lime water freſh made, eight ounces;
Sal ammoniac, two ſcruples;
Verdegris powdered, four grains.

Mix them, and after twenty four hours filtre the liquor.

This water is uſed externally for cleaning foul ulcers, and diſpoſing them to heal. It has been recommended alſo for taking off ſpecks and films from the eyes; but when uſed with this intention it ought to be diluted with ſome pure water, as in the ſtate of ſtrength in which it is here ordered, it irritates and inflames the eyes not a little.

AQUA CUPRI VITRIOLATI COMPOSITA, vulgo AQUA STYPTICA.

Edin.

Compound water of Vitriolated copper, commonly called *ſtyptic water*.

Take of
Vitriolated Copper,
Alum, of each three ounces;
Water, two pounds;
Vitriolic acid, one ounce and an half.

Boil the ſalts in the water that they may be diſſolved, and to the filtred liquor add the vitriolic acid.

This ſtyptic water is ſomewhat ſimilar to the old *aqua aluminoſa Bateana* of the former pharmacopœias, ſo much celebrated for ſtopping profuſe hæmorrhagies. Its chief uſe is for ſtopping bleedings at the noſe; and for this purpoſe cloths or doſſils ſteeped in the liquor are to be applied to the part.

C H A P. XVIII.

AQUÆ DISTILLATÆ.

London.

AQUÆ STILLATITIÆ.

Edinburgh.

DISTILLED WATERS.

THE effluvia which exhale into the air from many vegetables, particularly from thoſe of the odorous kind, conſiſt apparently of principles of great ſubtility and activity, capable of ſtrongly and ſuddenly affecting the brain and nervous ſyſtem, eſpecially in thoſe whoſe nerves are of great ſenſibility; and likewiſe of operating in a ſlower manner, on the ſyſtem of the groſſer veſſels. Thus Boerhaave obſerves, that in hyſterical and hypochondriacal perſons, the fragrant odour of the Indian hyacinth excites ſpaſms, which the ſtrong ſcent of rue relieves: that the effluvia of the walnut-tree occaſions headachs, and makes the body coſtive; that thoſe of poppies procure ſleep; and that the ſmell of bean bloſſoms, long continued, diſorders the ſenſes. Lemery relates, from his own knowledge, that ſeveral perſons were purged by ſtaying long in a room where damaſk roſes were drying.

Some of the chemiſts have indulged themſelves in the pleaſing ſurvey of theſe preſiding ſpirits, as they are called, of vegetables; their peculiar nature in the different ſpecies of plants; their exhalation into the atmoſphere by the ſun's heat, and diſperſion by winds; their rendering the air of particular places medicinal, or otherwiſe, according to the nature of the plants that abound. They have contrived alſo different means for collecting theſe fugitive emanations, and concentrating and condenſing them into a liquid form: employing either the native moiſture of the ſubject, or an addition of water, as a vehicle or matrix for retaining them.

The proceſs which has been judged moſt analogous to that of nature, is the following. The ſubject freſh gathered at the ſeaſon of its greateſt vigour, with the morning dew on it, is laid lightly and unbruiſed in a ſhallow veſſel, to which is adapted a low head with a recipient; under the veſſel a live coal is placed, and occaſionally renewed, ſo as to keep up an uniform heat, no greater than about 85 degrees of Fahrenheit's thermometer. In this degree of heat there ariſes, exceeding ſlowly, an inviſible vapour, which condenſes in the head into dewy drops, and falls down into the receiver; and which has been ſuppoſed to be the very ſubſtance that the plant would have ſpontaneouſly emitted in the open air.

But on ſubmitting many kinds of odoriferous vegetables to this proceſs, the liquors obtained by it have been found to be very different from the natural effluvia of the reſpective ſubjects; they have had very little ſmell, and no remarkable taſte. It appeared that a heat, equal to that of the atmoſphere, is incapable of raiſing in cloſe veſſels, thoſe parts of vegetables which they emit in the open air. It may therefore be preſumed, that in this laſt caſe ſome other cauſe concurs to the effect: that it is not the ſun's heat alone which raiſes and impregnates the air with the odorous principles of vegetables, but that the air itſelf, or the watery humidity with which it abounds acting as a true ſolvent, extracts and imbibes them: ſo that the natural effluvia of a plant may be conſidered as an infuſion of the plant made in air. The purgative virtue of the damaſk roſe, and the aſtringency of the walnut-tree, which, as above obſerved, are in ſome degree communicated to the air, may be totally extracted by infuſion both in watery and ſpirituous menſtrua, but never riſe in diſtillation with any degree of heat: and the volatile odours of aromatic herbs, which are diffuſed through the atmoſphere in the loweſt warmth, cannot be made to diſtil without a heat much greater than is ever found to obtain in a ſhaded air.

The above proceſs therefore, and the theory on which it is built, appear to be faulty in two points: 1. In ſuppoſing that all theſe principles which naturally exhale from vegetables, may be collected by diſtillation; whereas there are many which the air extracts in virtue of its ſolvent power; ſome are alſo incapable of being collected in a viſible and inelaſtic form; and ſome are artificially ſeparable by ſolvents only: 2. In employing a degree of heat inſufficient for ſeparating even thoſe parts which are truly exhalable by heat.

The foregoing method of diſtillation is commonly called *diſtillation by the cold ſtill;* but thoſe who have practiſed it, have generally employed a conſiderable heat. A ſhallow leaden veſſel is filled with the freſh herbs, flowers, &c. which are heaped above it; ſo that when the head is fitted on, this alſo may be filled a conſiderable way. A little fire is made under the veſſel, ſufficient to make the bottom much hotter than the hand can bear, care being only taken not to heat it ſo far as to endanger ſcorching any part of the ſubject. If the bottom of the veſſel be not made ſo hot as to have this effect on the part contiguous to it, there is no fear that the heat communicated to the reſt of the included matter will be ſo great as to do it any injury. By this management, the volatile parts of ſeveral odorous plants, as mint, are effectually forced over; and if the proceſs has been ſkilfully managed, the diſtilled liquor proves richly impregnated with the native odour and flavour of the ſubject, without having received any kind of diſagreeable impreſſion from the heat uſed.

This proceſs has been chiefly practiſed in private families; the ſlowneſs of the diſtillation, and the attendance and care neceſſary for preventing the ſcorching of ſome part of the plant, ſo as to communicate an ungrateful burnt flavour to the liquor, rendering it inconſiſtent with the diſpatch requiſite in the larger way of buſineſs.

Another method has therefore been had recourſe to, viz. by the common ſtill, called, in diſtinction from the foregoing, the *hot ſtill.* Here a quantity of water is added to the plant to prevent its burning; and the liquor is kept nearly of a boiling heat, or made to boil fully, ſo that the vapour riſes plentifully into the head, and paſſing thence into a ſpiral pipe or worm placed in a veſſel of cold water, is there condenſed, and runs out in drops quickly ſucceeding each other, or in a continued ſtream. The additional water does not at all weaken the produce: for the moſt volatile parts of the ſubject riſe firſt, and impregnate the liquor that firſt diſtils: as ſoon as the plant has given over its virtue ſufficiently, which is known by examining from time to time the liquor that runs from the noſe of the worm, the diſtillation is to be ſtopped.

This is the method of diſtillation commonly practiſed for the officinal waters. It is accompanied with one imperfection, affecting chiefly thoſe waters whoſe principal value conſiſts in the delicacy of their flavour; this being not a little injured by the boiling heat uſually employed, and by the agitation of the odorous particles of the ſubject with the water. Sometimes alſo a part of the plant ſticks to the ſides of the ſtill, and is ſo far ſcorched as to give an ungrateful taint to the liquor.

There is another method of managing this operation, which has been recommended for the diſtillation of the more volatile eſſential oils, and which is equally applicable to that of the waters. In this way, the advantages of the foregoing methods are united, and their inconveniencies obviated. A quantity of water being poured into the ſtill, and the herbs or flowers placed in a baſket over it, there can be no poſſibility of burning; the water may be made to boil, but ſo as not to riſe up into the baſket, which would defeat the intention of this contrivance. The hot vapour of the water, paſſing gently through all the interſtices of the ſubject matter, imbibes and carries over the volatile parts unaltered in their native flavour. By this means the diſtilled water of all thoſe ſubſtances whoſe oils are of the more volatile kind, are obtained in the utmoſt perfection, and with ſufficient diſpatch.

In the diſtillation of eſſential oils, the water, as was obſerved in a foregoing ſection, imbibes always a part of the oil. The diſtilled liquors here treated of, are no other than water thus impregnated with the eſſential oil of the ſubject; whatever ſmell, taſte, or virtue, is communicated to the water, or obtained in the form of a watery liquor, being found in a concentrated ſtate in the oil. The eſſential oil, or ſome part of it, more attenuated and ſubtiliſed than the reſt, is the direct principle on which the title of *ſpiritus rector*, or preſiding ſpirit, has been beſtowed.

All thoſe vegetables therefore which contain an eſſential oil, will give over ſome virtue to water by diſtillation: but the degree of the impregnation of the water, or the quantity of water which a plant is capable of ſaturating with its virtue, are by no means in proportion to the quantity of its oil. The oil ſaturates only the water that comes over at the ſame time with it: if there be more oil than is ſufficient for this ſaturation, the ſurplus ſeparates, and concretes in its proper form, not miſcible with the water that ariſes afterwards. Some odoriferous flowers, whoſe oil is in ſo ſmall quantity, that ſcarcely any viſible mark of it appears, unleſs fifty or an hundred pounds or more are diſtilled at once, give nevertheleſs as ſtrong an impregnation to water as thoſe plants which abound moſt with oil.

Many have been of opinion, that diſtilled waters may be more and more impregnated with the virtues of the ſubject, and their ſtrength increaſed to any aſſigned degree, by *cohobation*, that is, by rediſtilling them a number of times from freſh parcels of the plant. Experience, however, ſhews the contrary; a water ſkilfully drawn in the firſt diſtillation, proves on every repeated one not ſtronger but more diſagreeable. Aqueous liquors are not capable of imbibing above a certain quantity of the volatile oil of vegetables; and this they may be made to take up by one, as well as by any number of diſtillations: the oftener the proceſs is repeated, the ungrateful impreſſion which they generally receive from the fire, even at the firſt time, becomes greater and greater. Thoſe plants, which do not yield at firſt waters ſufficiently ſtrong, are not proper ſubjects for this proceſs, ſince their virtue may be obtained much more advantageouſly by others.

General rules for the DISTILLATION *of the* OFFICINAL SIMPLE WATERS.

I.

Where they are directed freſh, ſuch only muſt be employed: but ſome are allowed to be uſed dry, as being eaſily procurable in this ſtate at all times of the year, though rather more elegant waters might be obtained from them while green.

WHEN freſh and juicy herbs are to be diſtilled, thrice their weight of water will be fully ſufficient; but dry ones require a much larger quantity. In general, there ſhould be ſo much water, that after all intended to be diſtilled has come over, there may be liquor enough left to prevent the matter from burning to the ſtill.

Plants differ ſo much, according to the ſoil and ſeaſon of which they are the produce, and likewiſe according to their own ages, that it is impoſſible to fix the quantity of water to be drawn from a certain weight of them to any invariable ſtandard. The diſtillation may always be continued as long as the liquor runs well flavoured off the ſubject, and no longer.

II.

The diſtillation may be performed in an alembic with a refrigeratory, the junctures being luted; or in a common ſtill.

III.

The diſtillation is to be continued as long as the water, which comes over, is perceived to have any ſmell or taſte of the ſubject.

After the odorous water, alone intended for uſe, has come over, an acidulous liquor ariſes, which has ſometimes extracted ſo much from the copper head of the ſtill as to prove emetic. To this are owing the anthelmintic virtues attributed to certain diſtilled waters.

IV.

If any drops of oil ſwim on the ſurface of the water, they are to be carefully taken off.

V.

That the waters may keep the better, about a twentieth part their weight of proof ſpirit may be added to each after they are diſtilled. The Edinburgh pharmacopœia directs half an ounce of proof ſpirit to be added to every pound of the diſtilled water.

A great number of diſtilled waters were formerly kept in the ſhops and are ſtill retained in foreign pharmacopœias. The Faculty of Paris direct, in a late edition of their *Codex Medicamentarius*, no leſs than one hundred and twenty five different waters, and one hundred and thirty different ingredients in one ſingle water. Nearly one half of theſe have ſcarcely any virtue or flavour from the ſubject, and many of the others are inſignificant.

The Colleges of London and Edinburgh have rejected theſe oſtentatious ſuperfluities, and given an elegant and compendious ſet of waters, ſufficient for anſwering ſuch purpoſes as theſe kinds of preparations are applied to in practice. Diſtilled waters are employed chiefly as grateful diluents, as ſuitable vehicles for medicines of greater efficacy, or for rendering diſguſtful ones more acceptable to the palate and ſtomach; few are depended on, with any intention of conſequence, by themſelves.

AQUA DISTILLATA.

Lond.

Diſtilled Water.

Take of

Spring-water, ten gallons.

Draw off by diſtillation, firſt, four pints; which being thrown away, draw off four gallons. This water is to be kept in a glaſs or earthen bottle with a glaſs ſtopper.

AQUA DISTILLATA.

Edin.

Diſtilled Water.

Let ſpring or well water be diſtilled in very clean veſſels till about two thirds are drawn off.

Native water is ſeldom or never found pure, and generally contains earthy, ſaline, metallic, or other matters. Diſtillation is therefore employed as a means of freeing it from theſe heterogeneous parts. For ſome pharmaceutical purpoſes diſtilled water is abſolutely neceſſary: thus, if we employ hard undiſtilled water for diſſolving ſugar of lead, inſtead of a perfect tranſparent ſolution, we produce a milky one.

Diſtilled water is now employed by the London college for a great variety of purpoſes; and there can be no doubt, that in many chemical and pharmaceutical proceſſes, the employment of a heterogeneous fluid, in place of the pure element, may produce an eſſential alteration of qualities, or fruſtrate the intention in view. While the London college have made more uſe of diſtilled water than any other, their directions for preparing it ſeem to be the beſt. For as ſome impregnations may be more volatile than pure water, the water may be freed from them by throwing away what comes firſt over; and by keeping it afterwards in a cloſe veſſel, abſorption from the air is prevented.

AQUA ANETHI.

Lond.

Dill Water.

Take of
Dill-ſeed, bruiſed, one pound;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

AQUA SEMINUM ANETHI.

Edin.

Dill-ſeed Water.

Take of
Dill-ſeeds, one pound;
Pour on as much water as when ten pounds have been drawn off by diſtillation, there may remain as much as is ſufficient to prevent an empyreuma.
After proper maceration, let ten pounds be drawn off.

The London college determine the quantity of water to be diſtilled by meaſure, while that of Edinburgh determine it by weight. But the comparative ſtrengths may be eaſily known, ſince the Edinburgh college always direct 10 pounds, and that of London always a gallon, which is 10 pounds 1 ounce 6 drachms and 4 grains; ſo that we may without any ſenſible error eſtimate the gallon at 10 pounds.

Although the dill-water holds a place, not only in the London and Edinburgh pharmacopœias, but alſo in moſt of the foreign ones; yet it is not much employed in practice. It obtains, indeed, a pretty ſtrong impregnation from the ſeeds, and is ſometimes employed as a carminative, particularly as the baſis of mixtures and juleps; but it is leſs powerful and leſs agreeable than that of peppermint, cinnamon, and ſome others.

AQUA CINNAMONI.

Lond. Ed.

Cinnamon Water.

Take of
Cinnamon, bruiſed, one pound;
Water, ſufficient to prevent an empyreuma.
Macerate for twenty four hours, and draw off one gallon.

This is a very grateful and uſeful water, poſſeſſing in an eminent degree the fragrance and aromatic cordial virtues of the ſpice. Where real cinnamon water is wanted, care ſhould be had in the choice of the cinnamon, to avoid the too common impoſition of caſſia being ſubſtituted in its room. The two drugs may be eaſily diſtinguiſhed from each other by the marks laid down under the reſpective articles in the Second Part of this work: but the eſſential oils of the two approach ſo near, that after diſtillation it is perhaps impoſſible to diſtinguiſh the waters; and it is ſtill more doubtful how far the one is in any degree preferable to the other.

The oil of cinnamon is very ponderous, and ariſes more difficultly than that of any other of the vegetable matters from which ſimple waters are ordered to be drawn. This obſervation directs us, in the diſtillation of this water, to uſe a quick fire and a low veſſel. For the ſame reaſon, the water does not keep ſo well as might be wiſhed; the ponderous oil parting from it in time, and falling to the bottom, when the liquor loſes its milky hue, its fragrant ſmell, and aromatic taſte. Some recommend a ſmall proportion of ſugar to be added, in order to keep the oil united with the water.

AQUA CASSIÆ LIGNEÆ.

Edinb.

Caſſia Water.

From a pound and a half of the caſſia bark, ten pounds of water are directed to be drawn off in the ſame manner as the dill water.

This diſtilled water, as we have already obſerved, when properly prepared, approaches ſo near to that of cinnamon, that it is almoſt, if not altogether, impoſſible to diſtinguiſh the difference between the two. And although the London college has given it no place in their pharmacopœia, yet it is no ſtranger to the ſhops of the apothecaries. The difference of price between this and cinnamon water is ſo great, and the ſenſible qualities ſo nearly alike, that what is ſold under the name of cinnamon water is almoſt entirely prepared from caſſia alone; and not even from the caſſia bark, as directed by the Edinburgh college, but from the caſſia buds, which may be had at a ſtill cheaper rate, and which yield preciſely the ſame eſſential oil, although in leſs quantity. When caſſia water is prepared preciſely according to the directions of the Edinburgh college, from containing a larger proportion of the ſubject, it has in general a ſtronger impregnation than their genuine cinnamon water, and is probably in no degree inferior in its virtues.

AQUA FŒNICULI.

Lond.

Fennel Water.

Take of
- Sweet fennel-ſeeds, bruiſed, one pound;
- Water ſufficient to prevent an empyreuma.

Draw off one gallon.

The water of fennel-ſeeds is not unpleaſant. A water has alſo been diſtilled from the leaves. When theſe are employed, they ſhould be taken before the plant has run into flower; for after this time they are much weaker, and leſs agreeable. Some have obſerved, that the upper leaves and tops, before the flowers appear, yield a more elegant water, and a remarkably finer eſſential oil than the lower ones; and that the oil obtained from the one ſwims on water, while that of the other ſinks. No part of the herb, however, is equal in flavour to the ſeeds.

AQUA MENTHÆ PIPERITIDIS.

Lond.

Peppermint Water.

Take of
Peppermint, dried, one pound and an half;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

Edinb.

From three pounds of freſh peppermint in flower, ten pounds of water are to be drawn off.

This is a very elegant and uſeful water; it has a warm pungent taſte, exactly reſembling that of the peppermint itſelf. A ſpoonful or two taken at a time, warms the ſtomach, and gives great relief in cold, flatulent colics. Some have ſubſtituted a plain infuſion of the dried leaves of the plant, which is not greatly different in virtue from the diſtilled water.

In the diſtillation of this water, a conſiderable quantity of eſſential oil, generally comes over in its pure ſtate. And it is not uncommon to employ this for impregnating other water, with which it may be readily mixed by the aid of a little ſugar.

AQUA MENTHÆ SATIVÆ.

Lond.

Spearmint Water.

Take of
Spearmint, dried, one pound and an half;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

The Edinburgh college directs this water to be made in the ſame proportion as the preceding. But probably three pounds of the freſh herb will not give a ſtronger impregnation than a pound and a half of the dried; So that the water of the London college may be conſidered to be as ſtrongly impregnated as that of the Edinburgh college.

This water ſmells and taſtes very ſtrongly of the mint; and proves in many caſes an uſeful ſtomachic. Boerhaave commends it (cohobated) as a pleaſant and incomparable remedy for ſtrengthening a weak ſtomach, and curing vomiting proceeding from cold viſcous phlegm; and alſo in lienteries.

AQUA PIMENTO.

Lond. Edinb.

All ſpice Water.

Take of
All-ſpice bruiſed, half a pound;
Water, ſufficient to prevent an empyreuma.
Macerate for twenty four hours, and draw off one gallon.

This diſtilled water is a very elegant one, and has of late come pretty much into uſe; the hoſpitals employ it as a ſuccedaneum for the more coſtly ſpice waters. It is, however, inferior in gratefulneſs to the ſpirituous water of the ſame ſpice hereafter directed.

AQUA PULEGII.
Lond. Edinb.
Penny-royal Water.

Take of
- Dried penny-royal, one pound and a half;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

THE penny-royal water is directed to be prepared by the Edinburgh college in the ſame proportions as the mint and peppermint. Whether prepared from the recent or dried plant, it poſſeſſes in a conſiderable degree the ſmell, taſte, and virtues, of the penny-royal. It is not unfrequently employed in hyſterical caſes, and ſometimes with a good effect.

AQUA ROSÆ.
Lond. Edinb.
Roſe Water.

Take of
- Freſh petals of the damaſk roſe, the white heels being cut off, ſix pounds;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

THIS water is principally valued on account of its fine flavour, which approaches to that generally admired in the roſe itſelf. The purgative virtue of the roſes remains entire in the liquor left in the ſtill, which has therefore been generally employed for making the ſolutive honey and ſyrup, in ſtead of a decoction or infuſion of freſh roſes prepared on purpoſe: And this piece of frugality the college have now admitted. A diſtilled water of red roſes has been ſometimes called for in the ſhops, and ſupplied by that of damaſk roſes, diluted with common water: this is a very venial ſubſtitution: for the water drawn from the red roſe has no quality which that of the damaſk does not poſſeſs in a far ſuperior degree; neither the purgative virtue of the one, nor the aſtringency of the other, ariſing in diſtillation.

AQUA CORTICIS LIMONUM RECENTIUM.
Edin.
Lemon-peel Water.

From two pounds of recent lemon-peel, ten pounds of water are to be drawn off by diſtillation.

AQUA CORTICIS AURANTIORUM HISPALENSIUM RECENTIUM.
Edinb.
Orange-peel Water.

From two pounds of recent orange-peel, ten pounds of water are directed to be drawn off.

THESE diſtilled waters are chiefly employed as diluents in fevers and other diſorders where the ſtomach and palate are very apt to be diſguſted.

The diſtilled waters above noticed are the whole that have now a place in the pharmacopœias of the London and Edinburgh colleges: And this ſelection is ſufficiently large for anſwering every uſeful purpoſe. A conſiderable number of others are however ſtill retained in the modern foreign pharmacopœias; ſome of which at leaſt it may not be improper to mention.

AQUA ALEXITERIA.

Brun.

Alexiterial Water.

Take of
- Elder flowers, moderately dried, three pounds ;
- Angelica leaves, freſh gathered, two pounds ;
- Spring water, forty pounds.

Draw off, by diſtillation, thirty pounds.

This water is ſufficiently elegant with regard to taſte and ſmell ; though few expect from it ſuch virtues as its title ſeems to imply. It is uſed occaſionally for vehicles of alexipharmac medicines, or in juleps to be drank after them, as coinciding with the intention.

AQUA CAMPHORÆ.

Brun.

Camphor Water.

Take of
- Camphor, an ounce and an half.

Let it be diſſolved in half an ounce of ſpirit of roſemary, then pour on it two pounds of ſpring water, and draw off by diſtillation a pound and an half.

This diſtilled water contains the camphor in a dilute ſtate, but in only a very ſmall quantity ; where however it cannot be taken in any other form, this ſeems to be uſeful.

AQUA CASTOREI.

Brun.

Caſtor Water.

Take of
- Ruſſia caſtor, one ounce ;
- Water, as much as will prevent burning.

Draw off two pints.

Castor yields almoſt all its flavour in diſtillation to water ; but treated in the ſame manner with ſpirit of wine, gives over nothing. The ſpirit of caſtor formerly kept in the ſhops had none of the ſmell or virtues of the drug ; while the water here directed proves, when freſh drawn, very ſtrong of it.

It is remarkable, that the virtues of this animal ſubſtance reſide in a volatile oil, analogous to the eſſential oils of vegetables : ſome are reported to have obtained, in diſtilling large quantities of this drug, a ſmall portion of oil, which ſmelt extremely ſtrong of the caſtor, and diffuſed its ungrateful ſcent to a great diſtance.

This water is uſed in hyſteric caſes, and ſome nervous complaints, though it has not been found to anſwer what many people expect from it ; it loſes its flavour conſiderably by keeping.

AQUA CEREFOLII.

Gen.

Chervil Water.

Take of
- Freſh leaves of chervil, one pound ;
- Spring water, as much as is ſufficient for allowing eight pounds to be drawn off by diſtillation, at the ſame time avoiding empyreuma.

Although the chervil be but little employed in Britain yet it is held in high eſteem on the continent ; and the diſtilled water is perhaps one of the moſt elegant forms under which its active parts can be introduced. There is however reaſon to believe, that thoſe diuretic powers for which it has been chiefly celebrated, will be moſt certainly obtained from exhibiting it in ſubſtance, or under the form of the expreſſed juice of the recent plant.

AQUA CERASI.
Suec.
Black-cherry Water.

Take of
- Ripe black cherries, bruiſed with the kernels, 20 pounds ;
- Pure water, as much as is ſufficient for avoiding empyreuma.

Draw off 20 pounds by diſtillation.

THIS water, although now baniſhed from our pharmacopœias, has long maintained a place in the foreign ones, and even in Britain it is frequently to be met with in the ſhops. It has often been employed by phyſicians as a vehicle, in preference to the other diſtilled waters ; and among nurſes who have the care of young children, has been the chief remedy againſt the convulſive diſorders to which infants are ſo often ſubject. It has however of late been brought into diſrepute, and has been eſteemed poiſonous. It receives its flavour principally from the cherry ſtones ; and theſe kernels, like many others, bear a reſemblance in taſte to the leaves of the lauro-ceraſus, which have been diſcovered to yield, by infuſion or diſtillation, the moſt ſudden poiſon known. Some phyſicians of Worceſter have lately found, by trial purpoſely made, that a diſtilled water very ſtrongly impregnated with the flavour of the cherry kernels (no more than two pints being diſtilled from fourteen pounds of the cherry ſtones) proved in like manner poiſonous to brutes. The London college repeated the ſame experiment, and found the effects agreeable to thoſe gentlemen's report.

From theſe trials, nor after ſuch long experience, we cannot conclude black cherry water, when no ſtronger than the ſhops have been accuſtomed to prepare it, to be unſafe. Theſe kernels plainly reſemble opium, and ſome other things, which poiſon only when taken in too great quantity ; the water from the very laurel leaves is harmleſs when duly diluted : and even ſpirit of wine proves a poiſon of its kind not greatly different, if drank to a certain degree of exceſs ; nor can it be concluded, from the trials with the ſtrong black cherry water on dogs, &c. that it will have the ſame effects in the human body ; the kernels of many ſorts of fruits being in ſubſtance poiſonous to brutes, though innocent to man.

This water however in any degree of ſtrength may not be altogether ſafe for infants, where the principles of life are but juſt beginning as it were to move : it may poſſibly have had pernicious effects in theſe caſes without being ſuſpected : the ſymptoms it would produce, if it ſhould prove hurtful, being ſuch as children are often thrown into from the diſeaſe which it is imagined to relieve. On theſe conſiderations, both the London and Edinburgh colleges have choſen to lay it aſide ; more eſpecially as it has been too often conterfeited with a water diſtilled from bitter almonds, which are known to communicate a poiſonous quality. It is, however

ever, one of thoſe active articles which deſerved farther attention.

AQUA CHAMŒMELI FLORUM.
Dan.
Chamomile flower Water.

Take of
Chamomile flowers, dried in the ſhade, eight pounds;
Water, ſeventy two pounds; draw off by gentle diſtillation forty eight pounds.

Chamomile flowers were formerly ordered to be fermented previouſly to the diſtillation, a treatment which they do not need; for they give over, without any fermentation, as much as that proceſs is capable of enabling them to do. In either caſe the ſmell and peculiar flavour of the flowers ariſe without any of their bitterneſs, which remains behind in the decoction; and if duly depurated and inſpiſſated, yields an extract ſimilar to that prepared from the flowers in the common manner. The diſtilled water has been uſed in flatulent colics, and the like, but is at preſent held in no great eſteem.

AQUA FRAGORUM.
Suec.
Strawberry Water.

From twenty pounds of ſtrawberries, twenty pounds of diſtilled water are drawn off, according to the ſame directions given for the preparation of the black-cherry water.

Water thus impregnated with the eſſential oil of the ſtrawberries, ſome people will think a very agreeable flavour; but any conſiderable medical power is not to be expected from it.

AQUA HYSSOPI.
Suec.
Hyſſop Water.

From four pounds of the freſh leaves of hyſſop, ſix pounds of water are drawn off.

Hyssop water has been held by ſome in conſiderable eſteem as an uterine and a pectoral medicine. It was directed in a former edition of the Edinburgh pharmacopœia for making up the black pectoral troches, but is now exchanged for common water. Few at preſent expect any ſingular virtues from it, nor is it often met with in our ſhops, being now expunged from our pharmacopœias. It holds a place, however, in moſt of the foreign ones, and among ourſelves there are ſtill ſome practitioners who frequently employ it; although there can be no doubt that the medical properties of the hyſſop may be more readily and effectually extracted by ſimple infuſion.

AQUA LILIORUM ALBORUM.
Brun.
White-lily Water.

AQUA LILIORUM CONVALLIUM.
Brun.
Lily of the valley Water.

To any quantity of theſe flowers, four times their weight of water is to be added, and water drawn off by diſtillation in the proportion of two pounds to each pound of the flowers.

These waters muſt obtain ſome impregnation of that elegant eſſential oil, on which the odour of flowers in their growing ſtate depends; but they do not poſſeſs any remarkable medical properties.

AQUA MELISSÆ.

Brun.

Balm Water.

The green leaves of the balm are to be macerated with double their weight of water; and from each pound of the plant a pound and an half of water is to be drawn off.

This water contains a conſiderable impregnation from the balm, which yields its eſſential oil pretty freely on diſtillation. Though now baniſhed from our pharmacopœias, it has ſtill a place in moſt of the foreign ones In the old editions of the Edinburgh pharmacopœia, it was ordered to be cohobated, or re-diſtilled, from freſh quantities of the herb. This management ſeems to have been taken from Boerhaave, who has a very high opinion of the water thus prepared: he ſays, he has experienced in himſelf extraordinary effects from it, taken on an empty ſtomach; that it has ſcarce its equal in hypochondriacal and hyſterical caſes. in chloroſis, and palpitation of the heart, when thoſe diſeaſes proceed from a diſorder of the ſpirits, and not from any collection of morbific matter.

The virtues of balm however may be much more perfectly and advantageouſly extracted by cold infuſion in aqueous or ſpirituous menſtrua: in this laſt proceſs, the liquor ſuffers no injury from being returned on freſh parcels of the herb; a few repetitions will load it with the virtues of the ſubject, and render it very rich. The impregnation here is almoſt unlimited; but in diſtilled waters it is far otherwiſe.

AQUA RUTÆ.

Roſſ.

Rue Water.

From each pound of rue, with a ſufficient quantity of ſpring water to prevent empyreuma, two pounds of diſtilled water are to be drawn.

Rue gives over in this proceſs the whole of its ſmell, and great part of its pungency. The diſtilled water ſtands recommended in epileptic caſes, the hyſteric paſſion, for promoting perſpiration, and other natural ſecretions. But though it is a good deal employed abroad, it is with us falling into diſrepute.

AQUA SABINÆ.

Brun.

Savin Water.

This is diſtilled from the freſh leaves of ſavin, after the ſame manner as the former.

This water is by ſome held in conſiderable eſteem for the ſame purpoſes as the diſtilled oil of ſavin. Boerhaave relates, that he has found it (when prepared by cohobation) to give almoſt incredible motion to the whole nervous ſyſtem; and that when properly uſed, it proves eminently ſerviceable for promoting the menſes and the hæmorrhoidal flux.

It has now, however, fallen ſo much into diſrepute as to have no place either in our pharmacopœias or in the beſt modern foreign ones;

but when we reflect how readily ſavin yields a large proportion of active eſſential oil in diſtillation, it ſeems better intitled to attention than ſome other diſtilled waters which are ſtill retained.

AQUA SAMBUCI.
Brun.
Elder-flower Water.

This is diſtilled from freſh elder flowers, after the ſame manner as the white lily water.

This water ſmells conſiderably of the flowers; but is rarely uſed among us.

AQUA SALVIÆ.
Brun.
Sage Water.

This is directed to be prepared from the green leaves of the ſage, in the ſame manner as the balm water.

Sage leaves contain a conſiderable proportion of eſſential oil, which they yield pretty freely on diſtillation; but their whole medical properties may with ſtill greater eaſe and advantage be extracted by ſimple infuſion.

To the chapter on ſimple diſtilled waters the London college have annexed the following remarks.

We have ordered the waters to be diſtilled from the dried herbs, becauſe freſh are not ready at all times of the year. Whenever the freſh are uſed, the weights are to be increaſed. But, whether the freſh or dried herbs be employed, the operator may vary the weight according to the ſeaſon in which they have been produced and collected.

Herbs and ſeeds, kept beyond the ſpace of a year, are leſs proper for the diſtillation of waters.

To every gallon of theſe waters add five ounces, by meaſure, of proof ſpirit.

The Edinburgh college order half an ounce of proof-ſpirit to every pound of the water, which is nearly the ſame.

CHAP.

CHAP. XIX.

SPIRITUS DISTILLATI.

London.

SPIRITUS STILLATITII.

Edinburgh.

DISTILLED SPIRITS.

THE flavours and virtues of diſtilled waters are owing, as was obſerved in the preceding chapter, to their being impregnated with a portion of the eſſential oil of the ſubject from which they are drawn. Spirit of wine, conſidered as a vehicle for theſe oils, has this advantage above water, that it is their proper menſtruum, and keeps all the oil that riſes with it perfectly diſſolved. Nevertheleſs, many ſubſtances, which, on being diſtilled with water, impart to it their virtues in great perfection; if treated in the ſame manner with ſpirit of wine, ſcarcely give it any ſmell or taſte. This difference proceeds from the ſpirits not being ſuſceptible of ſo great a degree of heat as water. Liquids in general, when made to boil, have received as great a heat as they are capable of ſuſtaining: now, if the extent of heat between freezing and boiling water, as meaſured by thermometers, be taken for a ſtandard, ſpirit of wine will be found to boil with leſs than four-fifths of that heat, or above one-fifth leſs than the heat of boiling water. It is obvious therefore, that ſubſtances may be volatile enough to riſe with the heat of boiling water, but not with that of boiling ſpirit.

Thus, if cinnamon, for inſtance, be committed to diſtillation with a mixture of ſpirit of wine and water, or with a pure proof ſpirit, which is no other than a mixture of about equal parts of the two: the ſpirit will riſe firſt, clear, colourleſs, and tranſparent, and almoſt without any taſte of the ſpice; but as ſoon as the more ponderous watery fluid begins to riſe, the oil comes over freely with it, ſo as to render the liquor highly odorous, ſapid, and of a milky hue.

The proof-ſpirits uſually met with in the ſhops are accompanied with a degree of ill flavour; which though concealed by means of certain additions, plainly diſcovers itſelf in diſtillation. This nauſeous reliſh does not begin to riſe till after the purer ſpirituous part has come over; which is the very time that the virtues of the ingredients begin alſo moſt plentifully to diſtil; and hence the liquor receives an ungrateful taint. To this cauſe principally is owing the general complaint, that the cordials of the apothecary are leſs agreeable, than thoſe of the ſame kind prepared by the diſtiller; the latter being extremely curious in rectifying or purifying the ſpirits (when deſigned for what he calls fine goods) from all ill flavour.

ALKOHOL.
Lond.
Ardent ſpirit.

Take of
- Rectified ſpirit of wine, one gallon;
- Kali, made hot, one pound and an half;
- Pure kali, one ounce.

Mix the ſpirit of wine with the pure kali, and afterwards add one pound of the hot kali; ſhake them, and digeſt for twenty-four hours. Pour off the ſpirit, to which add the reſt of the kali, and diſtil in a water bath. It is to be kept in a veſſel well ſtopped.

The kali ought to be heated to 300 degrees.

The ſpecific gravity of the alkohol is to that of diſtilled water as 815 to 1000.

We have already offered ſome obſervations on ſpirit of wine, both in the ſtate of what is called rectified and proof ſpirit. In the preſent formula, we have ardent ſpirit ſtill more freed from an admixture of water than even the former of theſe; and in this ſtate it is unqueſtionably beſt fitted for anſwering ſeveral purpoſes. In former editions of our pharmacopœias, alkohol was directed to be prepared from French brandy; but this is rather too dear an article in this country for diſtillation; nor is the ſpirit obtained from it any ways preferable to one procurable from cheaper liquors. The coarſer inflammable ſpirits may be rendered perfectly pure, and fit for the niceſt purpoſes, by the following method.

If the ſpirit be exceedingly foul, mix it with about an equal quantity of water, and diſtil with a ſlow fire; diſcontinuing the operation as ſoon as the liquor begins to run milky, and diſcovers, by its nauſeous taſte, that the impure and phlegmatic part is riſing. By this treatment, the ſpirit leaves a conſiderable portion of its foul oily matter behind it in the water, which now appears milky and turbid, and proves highly diſagreeable to the taſte. If the ſpirit be not very foul at firſt, this ablution is not neceſſary; if extremely ſo, it ought to be repeated once, twice, or even oftener.

As vinous ſpirits ariſe with a leſs degree of fire than watery liquors, we are hence directed to employ, in the diſtillation of them, a heat leſs than that in which water boils, and if due regard be had to this circumſtance, very weak ſpirits may, by one or two wary diſtillations, be tolerably well freed from their aqueous phlegm; eſpecially if the diſtilling veſſels are of ſuch a height, that the ſpirit, by the heat of a water-bath, may but juſt paſs over them; in this caſe, the phlegmatic vapours which riſe for a little way along with the ſpirit, will condenſe and fall back again before they can come to the head. Very pompous inſtruments have been contrived for this purpoſe, and carried in a ſpiral or ſerpentine form to an extraordinary height. The ſpirit, aſcending through theſe, was to leave all the watery parts it contained, in its paſſage, and come over perfectly pure and free from phlegm. But theſe inſtruments are conſtructed on erroneous principles, their extravagant height defeating the end it was deſigned to anſwer: if the liquor be made to boil, a conſiderable quantity of mere phlegm will come over along with the ſpirit; and if the heat be not raiſed to this pitch, neither phlegm nor ſpirit will diſtil. The moſt convenient inſtrument is the common ſtill; between the body of which and its head an adopter or copper tube may be fixed.

The ſpirit being waſhed, as above directed, from its foul oil, and freed from the greateſt part of the phlegm by gentle diſtillation in a water-bath; add to every gallon of it a pound or two of pure, dry fixt alkaline ſalt. Upon digeſting theſe together for a little time, the alkali, from its known property of attracting water and oils, will imbibe the remaining phlegm, and ſuch part of the diſagreeable unctuous matter as may ſtill be left in the ſpirit, and will ſink with them to the bottom of the veſſel. If the ſpirit be now again gently drawn over, it will riſe, entirely free from its phlegm and nauſeous flavour; but ſome particles of the alkaline ſalt are apt to be carried up with it, and give what the workmen call an urinous reliſh; this may be prevented by adding, previous to the laſt diſtillation, a ſmall proportion of calcined vitriol, alum, or ſal catharticus amarus; the acid of theſe ſalts will unite with and neutraliſe the alkali, and effectually prevent it from riſing: while no more of the acid of the ſalts is extricated than what the alkali abſorbs.

The addition of alkaline ſalt, for imbibing the water, and preventing its riſing with the ſpirit, has been long practiſed, but is attended with the inconvenience above mentioned. This may be avoided by uſing, inſtead of the fixt alkali, ſome muriated lime in a dry and warm ſtate, which has a remarkable ſtrong attraction for water. This muriated lime need not to be prepared on purpoſe, being the reſiduum after the ſublimation of volatile alkali from ſal ammoniac and chalk, or the diſtillation of the cauſtic volatile alkali, which ought to be preſerved for this purpoſe.

The ſpirit obtained by this means is extremely pure, limpid, perfectly flavourleſs, and fit for the fineſt purpoſes. It may be reduced to the ſtrength commonly underſtood by proof, by mixing twenty ounces of it with ſeventeen ounces of water. The diſtilled cordials made with theſe ſpirits prove much more elegant and agreeable, than when the common rectified or proof ſpirits of the ſhops are uſed.

If the rectified ſpirit be diſtilled afreſh from dry alkaline ſalt, with a quick fire, it brings over a conſiderable quantity of the ſalt: and in this ſtate it is ſuppoſed to be a more powerful menſtruum for certain ſubſtances than the pure ſpirit. This alkaliſed ſpirit is called TARTARISED SPIRIT OF WINE.

The proceſs here deſcribed, which was long ſince recommended by Dr Lewis, will ſufficiently explain the intention of the London college, in the directions they have now given for the preparation of alkohol; and there can be no doubt, that by their proceſs a very pure alkohol may be obtained. Of this we have a ſufficient teſt in the ſpecific gravity of the fluid, which is to that of diſtilled water only as 815 to 1000, while the ſpecific gravity of rectified ſpirit, is as 835 to 1000.

SPIRITUS ÆTHERIS VITRIOLICI.

Lond.

Spirit of vitriolic Ether.

Take of
- Rectified ſpirit of wine,
- Vitriolic acid, each one pound.

Pour by a little at a time the acid on the ſpirit, and mix them by ſhaking; then from a retort through a tubulated receiver, to which another recipient is fitted, diſtil the ſpirit of vitriolic ether till ſulphureous vapours begin to riſe. If you continue the diſtillation, applying a freſh receiver, a portion of oil or wine will be obtained, which preſerve for uſe.

SPIRITUS ÆTHERIS VITRIOLICI, vulgo SPIRITUS VITRIOLI DULCIS.

Edin.

Spirit of vitriolic Ether, commonly called *Dulcified ſpirit of Vitriol.*

Take of
- Vitriolic ether, one part;
- Rectified ſpirit of wine, two parts.

Mix them.

The laſt of theſe proceſſes is a very ready and convenient method of preparing the dulcified ſpirit of vitriol, which only differs from ether by the acid being leſs predominant, and leſs intimately combined.

In the firſt proceſs, the moſt convenient way of mixing the ingredients is to put the ſpirits into the retort firſt, and with a long tubed funnel reaching down to the bottom of the retort to pour in the acid: by cautious agitation the two fluids unite, and a heat is produced, which may be taken advantage of in the diſtillation, if we have a ſand bath previouſly heated to the ſame degree, to ſet the retort into immediately after the mixture is completed; nor is there any occaſion for a tubulated receiver, if we immerſe the ordinary receiver, which ought to be large, in water, or bury it in broken Ice. See ÆTHER VITRIOLICUS, *Edinb.*

The diſtillation ſhould be performed with an equal and very gentle heat, and not continued ſo long as till a black froth begins to appear: for before this time, a liquor will ariſe of a very different nature from the ſpirits here intended. The juncture of the retort and recipient is to be luted with a paſte made of lintſeed meal, and further ſecured by a piece of wet bladder.

The true dulcified ſpirit ariſes in thin ſubtile vapours, which condenſe on the ſides of the recipient in ſtraight ſtriæ. It is colourleſs as water, very volatile, inflammable, of an extremely fragrant ſmell, and in taſte ſomewhat aromatic.

After the fire has been kept up for ſome time, white fumes ariſe; which either form irregular ſtriæ, or are collected into large round drops like oil: On the firſt appearance of theſe, the receiver muſt be taken away. If another be ſubſtituted, and the diſtillation continued, an acid liquor comes over, of an exceeding pungent ſmell like the fumes of burning brimſtone. At length a black froth haſtily begins to ariſe, and prevents carrying the proceſs farther.

A ſmall quantity of oil of a light yellow colour, a ſtrong, penetrating, and very agreeable ſmell, is found ſwimming on the ſurface of the ſulphureous ſpirit. This oil ſeems to be nearly of the ſame nature with the eſſential oils of vegetables. It readily and totally diſſolves in rectified ſpirit of wine, and communicates to a large quantity of that menſtruum the taſte and ſmell of the aromatic or dulcified ſpirit.

The matter remaining after the diſtillation is of a dark blackiſh colour, and ſtill highly acid. Treated with freſh ſpirit of wine, in the ſame manner as before, it yields the ſame production; till at length all the acid that remains unvolatiliſed being ſaturated with the inflammable oily matter of the ſpirit, the compound proves a bituminous ſulphureous maſs: which expoſed to the fire in open veſſels, readily burns, leaving a conſiderable quantity of fixed aſhes; but in cloſe ones, it explodes with violence; with fixt alkaline ſalts it forms a compound nearly ſimilar to one compoſed of alkalies and ſulphur.

The new name adopted by the London and Edinburgh colleges for this fluid, are expreſſive of its compoſition, the old term of *Spiritus vitrioli dulcis* is leſs properly fitted to diſtinguiſh it from other fluids, and to convey a juſt idea of its nature.

Dulcified ſpirit of vitriol has been for ſome time greatly eſteemed, both as a menſtruum and a medicine. It diſſolves ſome reſinous and bituminous ſubſtances more readily than ſpirit of wine alone, and extracts elegant tinctures from ſundry vegetables. As a medicine, it promotes perſpiration and the urinary ſecretion, expels flatulencies, and in many caſes abates ſpaſmodic ſtrictures, eaſes pains, and procures ſleep. The doſe is from ten to eighty or ninety drops in any convenient vehicle. It is not eſſentially different from the celebrated anodyne liquor of Hoffman; for which it is, by the author himſelf, frequently directed as a ſuccedaneum.

Of this fluid, however, or at leaſt of an article probably ſtill more nearly reſembling it, we ſhall afterwards have occaſion to ſpeak, when we treat of the *Spiritus ætheris vitriolici vinoſus*.

ÆTHER VITRIOLICUS.

Lond.

Vitriolic Ether.

Take of

The ſpirit of vitriolic ether, two pounds;

Water of pure kali, one ounce.

Shake them together, and diſtil, with a gentle heat, fourteen ounces by meaſure.

ÆTHER VITRIOLICUS.

Edin.

Vitriolic Ether.

Take of

Rectified ſpirit of wine,

Vitriolic acid, of each thirty-two ounces.

Pour the ſpirit into a glaſs retort fit for ſuſtaining a ſudden heat, and add to it the acid in an uniform ſtream. Mix them by degrees, frequently ſhaking them moderately; this done, inſtantly diſtil from ſand previouſly heated for that purpoſe, into a receiver kept cool with water or ſnow. The heat is to be ſo managed, that the liquor ſhall boil at firſt, and continue to boil till ſixteen ounces are drawn off; then let the retort be raiſed out of the ſand.

To the diſtilled liquor add two drachms of the ſtrongeſt common cauſtic: then diſtil again in a very high retort with a very gentle heat, into a cool receiver, until ten ounces have been drawn off.

If ſixteen ounces of rectified ſpirit of wine be poured upon the acid remaining in the retort after the firſt diſtillation, an ethereal liquor may be obtained by another diſtillation. This may be done pretty often.

The preparation of this ſingular fluid, now received into public pharmacopœias, was formerly confined to a few hands: for though ſeveral proceſſes have been publiſhed for obtaining it, the ſucceſs of moſt of them is precarious, and ſome of them are accompanied alſo with danger to the operator. The principal difficulty conſiſts in the firſt part of the diſtillation.

It has been uſual to direct the heat to be kept up till a black froth begins to appear: but if it is managed in the manner here directed, the quantity of ether which the liquor can afford will be formed and drawn off before this ſulphureous froth appears. The uſe of the cauſtic alkali is to engage any uncombined vitriolic acid which may be preſent in the firſt diſtilled liquor. If a mild alkali were employed for this purpoſe, the ſeparation of its air by the acid might endanger the burſting of the veſſels. This laſt is indeed an inconvenience which attends the whole of this proceſs. It might in a great meaſure be obviated by employing a range of receivers or *adopters*.

The ether, or etherial ſpirit, is the lighteſt, moſt volatile and inflammable, of all known liquids. It is lighter than the moſt highly rectified ſpirit of wine, in the proportion of about 7 to 8: a drop, let fall on the hand, evaporates almoſt in an inſtant, ſcarcely rendering the part moiſt. It does not mix, or only in a ſmall quantity, with water, ſpirit of wine, alkaline lixivia, volatile alkaline ſpirits, or acids; but is a powerful diſſolvent of oils, balſams, reſins, and other analogous ſubſtances. It is the only known ſubſtance capable of diſſolving the *elaſtic gum*. It has a fragrant odour, which, in conſequence of the volatility of the fluid, is diffuſed, through a large ſpace. It has often been found to give eaſe in violent headachs, by being applied externally to the part; and to relieve the toothach, by being laid on the afflicted jaw. It has been given alſo internally, with benefit, in hooping coughs, hyſterical caſes, in aſthma, and indeed in almoſt every ſpaſmodic affection, from a few drops to the quantity of half an ounce, in a glaſs of wine or water; which ſhould be ſwallowed as quick as poſſible, as the ether ſo ſpeedily exhales.

SPIRITUS ÆTHERIS NITROSI.

Lond.

Spirit of nitrous Ether.

Take of

Rectified ſpirit of wine, two pints;

Nitrous acid, half a pound.

Mix them, by pouring in the acid on the ſpirit, and diſtil with a gentle heat one pound ten ounces.

SPIRITUS ÆTHERIS NITROSI, vulgo SPIRITUS NITRI DULCIS.

Edinb.

Spirit of nitrous Ether, commonly called *Dulcified Spirit of Nitre.*

Take of

Rectified ſpirit of wine, three pounds;

Nitrous acid, one pound.

Pour the ſpirit into a capacious phial, placed in a veſſel full of cold water, and add the acid by degrees, conſtantly agitating them. Let the phial be ſlightly covered, and ſet by for ſeven days in a cool place; then diſtil the liquor, with the heat of boiling water, into a receiver kept cool with water or ſnow, till no more ſpirit comes over.

By allowing the acid and rectified ſpirit to ſtand for ſome time, the union of the two is not only more complete, but the danger alſo of the veſſels giving way, in conſequence of the ebullition and heat produced by mixing the ingredients, is in a great meaſure prevented. By fixing the degree of heat to the boiling point, the ſuperabundant acid matter is left in the retort, being too ponderous to be raiſed by that degree of heat.

Here the operator muſt take care not to invert the order of mixing the two liquors, by pouring the ſpirit into the acid; for if he ſhould, a violent efferveſcence and heat would enſue, and the matter be diſperſed in highly noxious red fumes.

Several methods have been contrived for obviating the inconveniences ariſing from the elaſtic fluid and violent exploſions produced on the mixture of the nitrous acid and rectified ſpirit of wine: Dr Black's, which is the beſt, is to put the ſpirit into a ſtrong vial, ſo large as that the ſpirit may fill about a fourth part of it, and plunge it into a large veſſel containing water with ſome ice among it; have the nitrous acid in a vial alſo plunged among the ice and water: when both have remained in this ſtate for an hour or two, the acid may be poured into the ſpirit by little and little, plunging the vial into the ice and water after every freſh addition of acid. The vial containing the ſpirit muſt be ſtopped with a conical ſtopper, and this ſtopper confined to its place by a weak ſpring. When all the acid is added to the ſpirit, the vial muſt remain in the ice and water for a day or two, and then ſet in a cool place for a week; when the ether will be found floating on the watery liquor below it. The diſtillation ſhould be performed with a very ſlow and well regulated fire; otherwiſe the vapour will expand with ſo much force as to burſt the veſſels. Wilſon ſeems to have experienced the juſtneſs of this obſervation, and hence directs the juncture of the retort and receiver not to be luted, or but ſlightly: if a tubulated recipient, with a ſufficiently long pipe, be uſed, and the diſtillation, performed with the heat of a water-bath, the veſſels may be luted without any danger.

Dulcified ſpirit of nitre has been long deſervedly held in great eſteem. It quenches thirſt, promotes the natural ſecretions, expels flatulencies, and moderately ſtrengthens the ſtomach: it may be given in doſes of from twenty drops to a drachm, in any convenient vehicle. Mixed with a ſmall quantity of *Spiritus ammoniæ aromaticus*, it proves a mild, yet efficacious, diaphoretic, and often remarkably diuretic; eſpecially in ſome febrile caſes, where ſuch a ſalutary evacuation is wanted. A ſmall proportion of this ſpirit added to malt ſpirits, gives them a flavour approaching to that of French Brandy.

SPIRITUS AMMONIÆ.
Lond.
Spirit of Ammonia.

Take of
Proof-ſpirit, three pints;
Sal ammoniac, four ounces;
Pot-aſh, ſix ounces.
Mix and diſtil with a ſlow fire one pint and an half.

SPIRITUS AMMONIÆ, vulgo SPIRITUS SALIS AMMONIACI VINOSUS.
Edin.
Spirit of Ammoniac, commonly called *Vinous ſpirit of Sal Ammoniac.*

Take of
Proof-ſpirit, four pounds;
Sal ammoniac, four ounces;
Purified lixive, ſix ounces.
Mix them, and by diſtillation with a gentle heat, draw off two pounds.

This ſpirit has lately come much into eſteem, both as a medicine and a menſtruum. It is a ſolution of volatile ſalt in rectified ſpirit of wine; for though proof-ſpirit be uſed, its phlegmatic part does not riſe in the diſtillation, and ſerves only to facilitate the action of the pure ſpirit on the ammoniacal ſalt Rectified ſpirit of wine does not diſſolve mild volatile alkaline ſalts by ſimple mixture: on the contrary, it precipitates them, as has been already obſerved, when they are previouſly diſſolved in water: but by the preſent proceſs, a conſiderable proportion of the volatile alkali is combined with the ſpirit. It might perhaps, for ſome purpoſes, be more adviſeable to uſe with this intention the volatile ſpirit made with quicklime; for this may be mixed at once with rectified ſpirit of wine, in various proportions, without the leaſt danger of any ſeparation of the volatile alkali,

The name here employed by both the colleges, particularly when put in contradiſtinction to the *aqua ammoniæ*, conveys a clear idea of the article.

As a menſtruum, the *ſpiritus ammoniæ* is employed to diſſolve eſſential oils, thus forming the ſpiritus volatilis aromaticus, or *Spiritus ammoniæ compoſitus*, which again is employed in making the tinctures of guaiac, valerian, &c.

The chief medical virtues which the ſpiritus ammoniæ poſſeſſes, when exhibited by itſelf, are thoſe of the volatile alkali.

SPIRITUS AMMONIÆ FŒTIDUS.

Lond.

Fetid Spirit of Ammonia.

Take of
Proof-ſpirit, ſix pints;
Sal ammoniac, one pound;
Aſafœtida, four ounces;
Pot-aſh, one pound and a half.
Mix them, and draw off by diſtillation five pints, with a ſlow fire.

Edinb.

Take of
Spirit of ammonia, eight ounces:
Aſafœtida, half an ounce.
Digeſt in a cloſe veſſel twelve hours; then diſtil off, with the heat of boiling water, eight ounces.

This ſpirit, the laſt formula of which is the beſt, as being moſt eaſily prepared, is deſigned as an antihyſteric, and is undoubtedly a very elegant one. Volatile ſpirits, impregnated for theſe purpoſes with different fetids, have been uſually kept in the ſhops; the ingredient here choſen, is the beſt calculated of any for general uſe, and equivalent in virtue to them all. The ſpirit is pale when newly diſtilled, but acquires a conſiderable tinge in keeping.

SPIRITUS ANISI COMPOSITUS.

Lond.

Compound Spirit of Aniſeed.

Take of
Aniſeed,
Angelica-ſeed, of each, bruiſed, half a pound;
Proof-ſpirit, one gallon;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon by diſtillation.

This compound ſpirit is now directed to be prepared by the London college in the ſame manner as in their former edition. It has no place in the Edinburgh pharmacopœia; but it may juſtly be conſidered as a very elegant water. The angelica ſeeds greatly improve the flavour of the aniſe. It is often employed with advantage, particularly in caſes of flatulent cholic; but it has been alleged to be ſometimes too frequently uſed with this intention as a domeſtic medicine, eſpecially by old ladies: for unleſs it be prudently and cautiouſly employed, it may ſoon be attended with all the pernicious conſequences of dram drinking.

SPIRITUS CARUI.

Lond.

Spirit of Caraway.

Take of
Caraway ſeeds, bruiſed, half a pound;

Proof-ſpirit, one gallon ;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

SPIRITUS CARVI, vulgo AQUA CARVI SPIRITUOSA.

Edin.

Spirit of caraway, commonly called *Spiritous caraway water.*

Take of
Caraway-ſeeds, half a pound ;
Proof-ſpirit, nine pounds.
Macerate two days in a cloſe veſſel ; then pour on as much water as will prevent an empyreuma, and draw off by diſtillation nine pounds.

By this proceſs the ſpirit obtains, in great perfection, the flavour of the caraway-ſeeds ; and it is a cordial frequently uſed.

SPIRITUS CINNAMOMI.

Lond.

Spirit of Cinnamon.

Take of
Bruiſed cinnamon, one pound ;
Proof-ſpirit, one gallon ;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

SPIRITUS CINNAMOMI.

Edinb.

Spirit of Cinnamon.

From one pound of cinnamon, nine pounds of ſpirit are to be drawn off, in the ſame manner as in the ſpirit of caraway.

This is a very agreeable and uſeful cordial, but not ſo ſtrong of the cinnamon as might be expected ; for very little of the virtues of the ſpice ariſes till after the pure ſpirituous part has diſtilled. Hence in the former editions of the London Pharmacopœia, the diſtillation was ordered to be protracted till two pints more than here directed were come over. By this means, the whole virtue of the cinnamon was more frugally than judiciouſly obtained ; for the diſagreeable flavour of the feints of proof ſpirits, and the acidulous liquor ariſing from cinnamon as well as other vegetables when their diſtillation is long continued, give an ill reliſh to the whole ; at the ſame time that the oil which was extracted from the ſpice was by this acid thrown down.

In the Pharmacopœia Reformata, it is propoſed to make this ſpirit by mixing the aqua cinnamomi ſimplex with ſomewhat leſs than an equal quantity of rectified ſpirit : on ſhaking them together, the liquor loſes its milky hue, ſoon becomes clear, and more elegant than the ſpirit diſtilled as above : it is equally ſtrong of the cinnamon, and free from the nauſeous taint with which the common proof ſpirits are impregnated.

SPIRITUS JUNIPERI COMPOSITUS.

Lond.

Compound Spirit of Juniper.

Take of
Juniper-berries, bruiſed, one pound ;
Caraway-ſeeds, bruiſed,
Sweet-fennel ſeeds, of each one ounce and an half ;
Proof ſpirit, one gallon ;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

SPIRITUS JUNIPERI COMPOSITUS, vulgo AQUA JUNIPERI COMPOSITA.
Edinb.
Compound ſpirit of Juniper, commonly called *Compound Juniper water*.

Take of
- Juniper-berries, well bruiſed, one pound;
- Caraway ſeeds,
- Sweet fennel ſeeds, each one ounce and a half;
- Proof-ſpirit, nine pounds.

Macerate two days; and having added as much water as will prevent an empyreuma, draw off by diſtillation nine pounds.

This ſpirit, mixed with about an equal quantity of the rob of juniper-berries, proves an uſeful medicine in catarrhs, debility of the ſtomach and inteſtines, and ſcarcity of urine. The water by itſelf is a good cordial and carminative: the ſervice which this and other ſpirits do with theſe intentions is commonly known; though the ill conſequences that follow from their conſtant uſe are too little regarded.

SPIRITUS LAVENDULÆ.
Lond.
Spirit of Lavender.

Take of
- Freſh flowers of lavender, one pound and an half;
- Proof-ſpirit, one gallon.

Draw off by diſtillation, in a water bath, five pints.

SPIRITUS LAVENDULÆ SIMPLEX.
Edinb.
Simple Spirit of Lavender.

Take of
- Flowering ſpikes of freſh lavender, two pounds;
- Rectified ſpirit of wine, eight pounds.

Draw off by the heat of boiling water, ſeven pounds.

This ſpirit, when made in perfection, is very grateful and fragrant: It is frequently rubbed on the temples, &c. under the notion of refreſhing and comforting the nerves; and it probably operates as a powerful ſtimulus to their ſenſible extremities; it is likewiſe taken internally, to the quantity of a tea-ſpoonful, as a warm cordial.

SPIRITUS MENTHÆ PIPERITIDIS.
Lond.
Spirit of Peppermint.

Take of
- The herb peppermint, dried, one pound and an half;
- Proof ſpirit, one gallon;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

SPIRITUS MENTHÆ PIPERITIDIS.
Edinb.
Spirit of Peppermint.

From a pound and an half of theſe leaves, nine pounds of ſpirit are drawn off, as from the caraway-ſeeds.

This ſpirit receives a ſtrong impregnation from the peppermint.

mint. It is employed in flatulent colics and ſimilar diſorders; and in theſe it ſometimes gives immediate relief: but where it is indicated, there are few caſes in which the peppermint water is not preferable.

SPIRITUS MENTHÆ SATIVÆ.

Lond.

Spirit of Spearmint.

Take of
- Spearmint, dried, one pound and an half;
- Proof-ſpirit, one gallon;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

This ſpirit has no place in the Edinburgh pharmacopœia. It is, however, a very elegant one, and preferable, in weakneſs of the ſtomach, retching to vomit, and the like, to many more elaborate preparations. Where the diſorder is not accompanied with heat or inflammation, half an ounce of this ſpirit may be given diluted with ſome agreeable aqueous liquor: but, as was already obſerved with regard to the preceding article, there are many caſes in which the prudent practitioner will be diſpoſed to give the preference to the ſimple diſtilled water.

SPIRITUS NUCLEI FRUCTUS MYRISTICÆ ſive NUCIS MOSCHATÆ.

Lond.

Spirit of Nutmeg.

Take of
- Bruiſed nutmegs, two ounces;
- Proof ſpirit, one gallon;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

SPIRITUS NUCIS MOSCHATÆ.

Edinb.

Spirit of Nutmeg.

From two ounces of the nutmeg well bruiſed, nine pounds of ſpirit are to be drawn off as from caraway-ſeeds.

This is an agreeable ſpirituous liquor, highly impregnated with the nutmeg flavour. It was formerly celebrated in nephritic diſorders, and when combined with a few hawthorn flowers, it had even the title of *aqua nephritica*. At preſent it is employed only as a cordial liquor, and is not even very frequently in uſe.

SPIRITUS PIMENTO.

Lond.

Spirit of Pimento, or All-ſpice.

Take of
- All-ſpice, bruiſed, two ounces;
- Proof ſpirit, one gallon;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

Edin.

From half a pound of pimento, nine pounds of ſpirit are to be drawn off as from caraway-ſeeds.

This ſpirit is far more agreeable than a ſimple water drawn from the ſame ſpice: and had long a place among the cordials of the diſtiller, before it was received into any public pharmacopœia; but although now adopted both by the London and Edinburgh colleges, it is not very frequently ordered from the ſhops of the apothecary.

SPIRITUS PULEGII.
Lond.
Spirit of Penny-royal.

Take of
The herb penny-royal, dried, one pound and an half;
Proof-ſpirit, one gallon;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

This ſpirit has no place in the Edinburgh pharmacopœia. It poſſeſſes, however, a conſiderable ſhare of the flavour of the penny-royal, and is very frequently employed as a carminative and antihyſteric.

SPIRITUS RAPHANI COMPOSITUS.
Lond.
Compound ſpirit of Horſe-radiſh.

Take of
Freſh horſe-radiſh root,
Dried outer-rind of Seville oranges, each two pounds;
Freſh herb of garden ſcurvy-graſs, four pounds;
Bruiſed nutmegs, one ounce;
Proof ſpirit, two gallons;
Water, ſufficient to prevent an empyreuma.
Draw off two gallons.

This ſpirit has long been conſidered as an elegant one, and is perhaps as well adapted for the purpoſes of an antiſcorbutic as any thing that can be contrived in this form. It has been alleged, that the horſe-radiſh and ſcurvy-graſs join very well together, giving a ſimilar flavour, though not a little diſagreeable; that the nutmeg ſuppreſſes this flavour very ſucceſsfully, without ſuperadding any of its own, and that to this, orange peel adds a flavour very agreeable. Arum root had formerly a place in this water, but is here deſervedly thrown out; for it gives nothing of its pungency by diſtillation, notwithſtanding what is aſſerted by ſome pharmaceutical writers to the contrary. Muſtard ſeed, though not hitherto employed in theſe kinds of compoſitions, would ſeem to be an excellent ingredient; it gives over the whole of its pungency, and is likewiſe leſs periſhable than moſt of the other ſubſtances of this claſs; this ſeed wants no addition, excepting ſome aromatic material to furniſh an agreeable flavour.

Although this proceſs may furniſh an agreeable compound ſpirit, yet it is much to be doubted, whether it poſſeſſes thoſe antiſcorbutic powers for which it was once celebrated; and with this intention the Edinburgh college place ſo little confidence in it, that they have now rejected it from their pharmacopœia.

SPIRITUS RORISMARINI.
Lond.
Spirit of Roſemary.

Take of
Freſh tops of roſemary, one pound and an half;
Proof-ſpirit, one gallon.
Diſtil in a water bath, five pints.

Edinb.

Take of
Freſh flowering tops of roſemary two pounds;

Rectified ſpirit of wine, eight pounds.

Diſtil in the heat of boiling water till ſeven pounds come over.

A ſpirit ſimilar to this is generally brought to us from abroad, under the name of Hungary water.

This ſpirit is very fragrant, ſo as to be in common uſe as a perfume: that brought from abroad is ſuperior in fragrance to ſuch as is generally made among us. In order to prepare it in perfection, the vinous ſpirit ſhould be extremely pure; the roſemary tops gathered when the flowers are full blown upon them, and committed immediately to diſtillation, care being taken not to bruiſe or preſs them. The beſt method of managing the diſtillation, is that which was formerly recommended for the diſtillation of the more volatile eſſential oils and ſimple waters, viz. firſt to place the ſpirit in the ſtill, and then ſet in, above the liquor, either an iron hoop, with a hair-cloth ſtretched over it, upon which the flowers are to be lightly ſpread, or rather a baſket, ſupported on three pins, reaching down to the bottom. A gentle heat being applied juſt ſufficient to raiſe the ſpirit, its vapour lightly percolating through the flowers, will imbibe their finer parts, without making that diſagreeable alteration, which liquors applied to ſuch tender ſubjects, in their groſſer form, generally do. Probably the ſuperiority of the French Hungary water, to that prepared among us, is owing to ſome ſkilful management of this kind, or to employing a perfectly pure ſpirit.

In the Wirtemberg pharmacopœia, ſome ſage and ginger are added, in the proportion of half a pound of the former, and two ounces of the latter, to four pounds of the roſemary; but the peculiar agreeable flavour of this water depends on the roſemary alone.

AQUA CARMELITANA.

Dan.

Carmelite Water, or compound Balm Water.

Take of

- Freſh-gathered leaves of balm, a pound and a half;
- The recent yellow rind of lemons, four ounces;
- Nutmeg,
- Coriander, each two ounces;
- Cloves,
- Cinnamon, each one ounce.

The ingredients being ſliced and bruiſed, pour upon them;

- Rectified ſpirit of wine, ſix pounds;
- Balm water, three pounds.

Digeſt for three days; then draw off ſix pounds by diſtillation.

This ſpirit has been a good deal celebrated, particularly among the French, under the title of *Eau de Carmes.* Mr Baumé, in his Elemens de Pharmacie, propoſes ſome improvements on the proceſs. After the ſpirit added to the ingredients has been drawn off in the heat of a water-bath, he orders the diſtilled liquor to be rectified by a ſecond diſtillation, drawing off ſomewhat leſs than nine-tenths of it. He recommends, that all the aromatic ſpirits ſhould be prepared in the ſame manner. When the common ſpirits of this kind are rubbed between the hands, they leave, after the more volatile parts have exhaled, a diſagreeable empyreumatic ſmell; and when diluted with water, and taken medicinally, they leave in like manner a nauſeous

ous flavour in the mouth. To remedy theſe imperfections, he made many experiments, which ſhewed that in order to obtain theſe liquors of the deſireable qualities, the ſpirit muſt not only be perfectly pure at firſt, but that the liquor ought alſo to be rectified after it has been diſtilled from the ſubjects. In this rectification, only the more volatile, ſubtile, aromatic parts of the ingredients ariſe: there remains behind a white liquor, acrid, bitter, loaded only with the groſſer oil, and deprived of all the ſpecific flavour of the ſubjects. Indeed the very imperfection complained of, naturally points out this ſecond diſtillation as the remedy; for it ſhews the ſpirit to contain a grateful and ungrateful matter; the firſt of which exhales, while the other is left behind. The author ſays, that when the *aqua meliſſæ* is prepared as above directed, it has ſomething in it more perfect than any of the odoriferous ſpirits, whoſe excellence is cried up, and which have the reputation of being the beſt.

Aromatic ſpirituous liquors have in general leſs ſmell, when newly diſtilled, than after they have been kept about ſix months. Mr Baumé ſuſpects that the preparations of this kind, which have been moſt in vogue, were ſuch as have been thus improved by keeping: and found that the good effects of age might be produced in a ſhort time by means of cold. He plunges quart bottles of the liquor into a mixture of pounded ice and ſea ſalt: the ſpirit after having ſuffered, for ſix or eight hours, the cold thence reſulting, proves as grateful as that which has been kept for ſeveral years. Simple waters alſo, after being frozen, prove far more agreeable than they were before, though they are always leſs ſo than thoſe which have been drawn with ſpirit, and expoſed to a like degree of cold. This melioration of diſtilled waters by froſt was taken notice of by Geoffroy.

SPIRITUS COCHLEARIÆ.

Suec.

Spirit of Scurvygraſs.

Take of
- Freſh ſcurvygraſs, bruiſed, ten pounds;
- Rectified ſpirit of wine, eight pounds.

With the heat of a water bath, diſtil off four pounds.

THIS ſpirit is very ſtrong of the ſcurvygraſs; and has been given, in thoſe caſes where the uſe of this herb is proper, in doſes of from twenty to one hundred drops. The virtues of ſcurvygraſs reſide in a very ſubtile, volatile oil, which ariſes in diſtillation both with water and pure ſpirit; and if the liquors are expoſed to the air, ſoon exhales from both. The ſpirit, newly diſtilled, is extremely pungent; but if long kept, even in cloſe veſſels, it becomes remarkably leſs ſo.

The makers of this ſpirit have frequently added to the ſcurvygraſs a quantity of horſe-radiſh root, and ſometimes ſubſtituted for it one drawn entirely from the horſe-radiſh: the flavour of theſe two ſimples being ſo much alike, that their diſtilled ſpirits are ſcarcely diſtinguiſhable from each other.

SPIRITUS AURANTII.

Suec.

Spirit of Orange-peel.

Take of
- Recent orange peel, one pound;

Proof-ſpirit, three pounds.
Draw off two pounds by the heat of a water-bath.

This ſpirit, which is now rejected from our pharmacopœias, had formerly a place in them under the title of *aqua corticum aurantiorum ſpirituoſa*. It is conſiderably ſtronger of the orange-peel than the ſimple water; and is an uſeful cordial, ſtomachic, and carminative.

SPIRITUS AROMATICUS.

Suec.

Aromatic Spirit.

Take of
- The tops of roſemary, a pound and an half;
- Tops of milfoil,
- Thyme, each half a pound;
- Proof-ſpirit, ſixteen pounds.

Macerate for two days, and draw off by diſtillation, eight pounds. If to this quantity of ſpirit four pounds of vinegar be added, it forms the *ſpiritus aromaticus acetatus*.

This preparation does not differ materially from the ſpirit of roſemary or Hungary water; for on the eſſential oil of the roſemary its medicinal properties may be conſidered as chiefly depending. It is often employed, particularly for external purpoſes, and for impregnating the air with its vapours, to deſtroy the influence of febrile contagions.

SPIRITUS ANTICTERICUS.

Gen.

Antiéteric Spirit.

Take of
- Spirit of turpentine, an ounce and an half;
- Rectified ſpirit of wine, half a pound.

Diſtil with a gentle heat. Let the oil ſwimming above in the receiver be ſeparated from the ſaturated ſpirit, which is to be preſerved for uſe.

It has been imagined, that this combination of oil of turpentine with ardent ſpirit will furniſh an effectual ſolvent for biliary calculi: hence the origin of the name here given it. But although it may have ſuch an effect when copiouſly applied to the calculi in a glaſs veſſel; yet this is not to be expected when it is taken into the ſtomach, and can only reach them in the courſe of circulation.

CHAP. XX.

DECOCTA ET INFUSA.

DECOCTIONS AND INFUSIONS.

WATER, the direct menſtruum of gums and ſalts, readily extracts the gummy and ſaline parts of vegetables. Its action, however, is not limited to theſe; the reſinous and oily principles being, in moſt vegetables, ſo intimately blended with the gummy and ſaline, as to be in part taken up along with them: ſome of the reſinous cathartics, and moſt of the aromatic herbs, as well as bitters and aſtringents, yield to water the greateſt part of their ſmell, taſte, and medicinal virtue. Even of the pure eſſential oils, and odorous reſins of vegetables, ſeparated from the other principles, water imbibes a part of the flavour; and by the artificial admixture of gummy or ſaline matter, the whole ſubſtance of the oil or reſin is made ſoluble in water.

Of pure ſalts, water diſſolves only certain determinate quantities: by applying heat, it is generally enabled to take up more than it can do in the cold, and this in proportion to the degree of heat; but as the liquor cools, this additional quantity ſeparates, and the water retains no more than it would have diſſolved without heat. With gummy ſubſtances, on the other hand, it unites unlimitedly, diſſolving more and more of them till it loſes its fluidity. Heat expedites the action of the water on gum, but cannot enable it to take up more than it would do by allowing it longer time in the cold. The active parts extracted from moſt vegetables by water, and oils and reſins made ſoluble in water by the artificial admixture of gum, partake of this property of pure gums, being ſoluble without any limitation.

It has been imagined, that vegetables in a freſh ſtate, while their oily, reſinous, and other active parts, are already blended with a watery fluid, would yield their virtues to water more freely and more plentifully, than when their native moiſture has been diſſipated by drying. Experience, however, ſhews, that dry vegetables in general give out more than freſh ones, water ſeeming to have little action upon them in their recent ſtate. If, of two equal quantities of mint, one be infuſed freſh in water, and the other dried, and then infuſed in the like quantity of water for the ſame length of time, the infuſion of the dry herb will be remarkably the ſtrongeſt; and the caſe appears to be the ſame in all the vegetables that have been tried.

In all the preparations deſcribed in this chapter, it is to be underſtood that the ſubjects muſt be moderately and newly dried unleſs when they are expreſsly ordered to be taken freſh; in which caſe, their virtues are ſuppoſed to be deſtroyed or impaired by drying.

The native colours of many vegetables are communicated to water along with their medicinal matter; many impart a colour different from their own; and others, though of a beautiful and deep colour themſelves, give ſcarcely any to the menſtruum. Of the firſt kind are the yellow and red flowers; of the ſecond, the leaves of moſt plants; of the third, ſome of the blue flowers, as thoſe of cyanus and larkſpur. Acid liquors change the infuſions of moſt flowers, the yellow ones excepted, to a red; and alkalies, both fixed and volatile, to a green.

From animal ſubſtances, water extracts the gelatinous and nutritious parts; whence glues, jellies, broths, &c; and along with theſe, it takes up principles of more activity, as the acrid matter of cantharides. It diſſolves alſo ſome portion of calcined calcareous earth, but has little or no action on any other kind of earthy matter.

The effect of boiling differs from that of infuſion in ſome material particulars. One of the moſt obvious differences is, that as the eſſential oils of vegetables, in which their ſpecific odours reſide, are volatile in the heat of boiling water, they exhale in the boiling along with the ſteam, and are thus loſt, whereas both in cold, and ſometimes in hot infuſions, they are preſerved; although in the latter they are by no means perfectly ſo. Odorous ſubſtances, and thoſe in general whoſe virtues depend on their volatile parts, are therefore unfit for this treatment. The volatile parts of theſe may, nevertheleſs, be united in this form with thoſe bodies of a more fixt nature, by boiling the latter till their virtues be ſufficiently extracted, and then infuſing the former in this decoction.

The extraction of the virtue of the ſubject is uſually promoted or accelerated by a boiling heat; but this rule is leſs general than it is commonly ſuppoſed to be. We have already obſerved, that Peruvian bark gives out its virtue more perfectly by cold infuſion than by coction. In ſome caſes, boiling occaſions a manifeſt diſunion of the principles of the ſubject; thus, when almonds are triturated with cold water, their oil, blended with the mucilaginous or other ſoluble matter of the almond, unites with the water, into a milky liquor called an emulſion: but on boiling them in water, the oil ſeparates and riſes to the ſurface; and if the moſt perfect emulſion be made to boil, a like ſeparation happens.

This alſo appears to take place, though in a leſs evident manner, in boiling ſundry other vegetables; thus tobacco, aſarum, and ipecacuanha, loſe their active powers by boiling: nor does it appear that this change is effected merely by the diſcharge of volatile parts. From ſome late experiments, it has been found, that the diſtilled water of ipecacuanha was infinitely leſs emetic than the infuſion from which it was diſtilled, and that the boiling liquor gradually aſſumes a black colour, indicating ſome kind of decompoſition of parts; the ſame circumſtances probably take place in boiling all vegetables whatever, though from their not producing ſuch ſenſible operations on the living body, they cannot be ſo clearly diſcovered as in ipecacuanha, tobacco, or aſarum.

Vinegar extracts the virtues of ſeveral medicinal ſubſtances in tolerable perfection; but at the ſame time its acidity makes a remarkable alteration in them, or ſuperadds a virtue of a different kind: and hence it is more rarely employed with this intention than purely aqueous or ſpirituous menſtrua. Vinegar however for particular purpoſes, excellently aſſiſts, or coincides with the virtues of ſome drugs, as ſquills, garlic, ammoniacum, and others: and in many caſes where this acid is itſelf principally depended on, it may be advantageouſly impregnated with the flavour of certain vegetables: Moſt of the odoriferous flowers impart to it their fragrance, together with a fine purpliſh or red colour; violets, for inſtance, if freſh parcels of them are infuſed in vinegar in the cold for a little time, communicate to the liquor a pleaſant flavour, and bright purpliſh red colour. Vinegar, like other acids, added to watery infuſions or decoctions, generally precipitates a part of what the water had diſſolved.

DECOCTUM ALTHÆÆ.

Edinb.

Decoction of Marſh-mallows.

Take of

Dried marſh-mallow roots, four ounces;

Raiſins ſtoned, two ounces;

Water, ſeven pounds.

Boil to five pounds; ſet apart the ſtrained liquor till the feces have ſubſided; then pour off the clear liquor.

The Edinburgh college have ſubſtituted this for the more complicated formula of the *Decoctum ad Nephriticos* of their former pharmacopœia, and it fully anſwers the intentions of that preparation: it is intended chiefly as an emollient, to be liberally drank in nephritic paroxyſms: in which caſes, by ſoftening and relaxing the parts, it frequently relieves the pain, and procures an eaſy paſſage for the ſabulous matter. This medicine is now made more ſimple than before, without any diminution of its virtue, by the rejection of wild-carrot ſeed, reſtharrow root, figs, lintſeed, and liquorice. The carrot ſeeds were indeed unfit for this form, as they give out little of their virtue to watery liquors.

DECOCTUM CORNU CERVI.

Lond.

Decoction of Hartſhorn.

Take of

Burnt and prepared hartſhorn, two ounces;

Gum arabic, ſix drachms;

Diſtilled water, three pints.

Boil, conſtantly ſtirring, to two pints; and ſtrain.

THIS decoction is uſed as common drink in acute diſeaſes attended with a looſeneſs, and where acrimonious humours abound in the primæ viæ. The gum is added, in order to render the liquor ſlightly glutinous, and thus enable it to ſuſtain more of the earth. It may be obſerved, that the water is not enabled by the boiling to diſſolve any part of the calx; and that in the decoction, the earth is only diffuſed in ſubſtance through the water, as it would be by agitation.

For theſe reaſons, this formula is now rejected by the Edinburgh college, notwithſtanding the reputation in which it was held by Dr Sydenham, and other names of the firſt eminence. But as an abſorbent of a ſimilar nature, the Edinburgh college have introduced the *Potio cretacea*, for which ſee chapter 23.

DECOCTUM CINCHONÆ, ſive CORTICIS PERUVIANI.

Lond. Edin.

Decoction of Peruvian bark.

Take of
- Peruvian bark, powdered, one ounce;
- Diſtilled water, one pint and three ounces *Lond;* a pound and an half *Edin.*

Boil for ten minutes, in a covered veſſel, and ſtrain the liquor while hot.

ALTHOUGH a cold watery infuſion of bark is in general preferable to any decoction, yet this form has at leaſt the advantage of being more quickly prepared; and the decoction here directed, which is boiled only for a ſhort time, and ſtrained while hot, is preferable to any other.

This decoction ſhould be paſſed only through a coarſe ſtrainer and drank while turbid; if ſuffered to ſtand till clear, the more efficacious parts of the bark will ſubſide. We have formerly obſerved, that the virtues of this drug conſiſt chiefly in its reſinous ſubſtance, which though it may be totally melted out by the heat of boiling water, remains only partially ſuſpended in that menſtruum.

DECOCTUM PRO ENEMATE.

Lond.

Decoction for a Glyſter.

Take of
- The dried leaves of mallow, one ounce;
- Dried chamomile-flowers, half an ounce;
- Water, one pint.

Boil, and ſtrain.

THE title of this decoction ſufficiently expreſſes its uſe, as the baſis of glyſters. The ingredients ſhould be very ſlightly boiled, or at leaſt the chamomile flowers not be put in till towards the end, a part of their virtue being ſoon loſt by boiling.

DECOCTUM PRO FOMENTO.

Lond.

Decoction for Fomentation.

Take of
- The dried leaves of ſouthernwood,
- The dried tops of ſea worm-wood,
- Dried chamomile flowers, each one ounce:
- Dried laurel leaves, half an ounce;

Diſtilled water, ſix pints.

Boil them a little, and ſtrain.

DECOCTUM CHAMŒMELI, vulgo DECOCTUM COMMUNE.

Edinb.

Decoction of chamomile, commonly called *Common Decoction.*

Take of

Chamomile-flowers, one ounce;

Caraway ſeeds, half an ounce;

Water, five pounds.

Boil for a quarter of an hour, and ſtrain.

This decoction is intended to anſwer the purpoſes of both the foregoing.

It muſt however be acknowledged, that theſe impregnations are for the moſt part unneceſſary for the purpoſe of glyſters; and in ordinary caſes the weight of the water uſually ſolicits a diſcharge before theſe medicines can produce any effect.

As fomentations, their virtues are alſo in a great meaſure to be aſcribed to the influence of the warm water: and when the herbs themſelves are applied, they act only as retaining heat and moiſture for a longer time.

DECOCTUM GEOFFRÆÆ.

Edin.

Decoction of cabbage tree.

Take of

Bark of the cabbage tree, powdered, one ounce;

Water, two pounds.

Boil it with a gentle fire down to one pound, and ſtrain.

The medicinal qualities of the geoffræa have been amply treated of in the materia medica, to which the reader is referred. As it is a very violent medicine, the practitioner ought to be on his guard againſt giving it in too large a doſe, eſpecially at firſt.

DECOCTUM HELLEBORI ALBI.

Lond.

Decoction of White Hellebore.

Take of

The root of white hellebore, powdered, one ounce;

Diſtilled water, two pints;

Rectified ſpirit of wine, two ounces.

Boil the water with the root to one pint; and, the liquor being cold and ſtrained, add to it the ſpirit.

White hellebore, as we formerly obſerved, is now very rarely employed internally; and the preſent formula is entirely intended for external uſe. Recourſe is ſometimes had to it with advantage in cutaneous eruptions, particularly in tinea capitis. But where the incruſtations are entirely removed, leaving a very tender ſkin, it is neceſſary that the decoction ſhould be diluted previouſly to its employment.

DECOCTUM HORDEI.

Lond. Edin.

Decoction of Barley.

Take of

Pearl-barley, two ounces;

Diſtilled water, four pints.

The barley being firſt waſhed with cold water from the adhering impurities, pour upon it about half a pint of water, and boil the barley a little time. This water, which will receive a tinge from the barley, being thrown away,

away add the diſtilled water, boiling, to the barley ; boil it to two pints, and ſtrain.

DECOCTUM HORDEI COMPOSITUM.

Lond.

Compound Decoction of Barley.

Take of
The decoction of barley, two pints ;
Figs, ſliced, two ounces ;
Liquorice root, ſliced and bruiſed, half an ounce ;
Raiſins, ſtoned, two ounces ;
Diſtilled water, one pint.
Boil to two pints, and ſtrain.

These liquors are to be drank freely as diluters in fevers and other diſorders : hence it is of conſequence that they ſhould be prepared ſo as to be as elegant and agreeable as poſſible ; for this reaſon they are inſerted in the pharmacopœia, and the ſeveral circumſtances which contribute to their elegance ſet down ; if any one of them be omitted, the beverage will be leſs grateful. However trivial medicines of this claſs may appear to be, they are of greater importance in the cure of acute diſeaſes than many more elaborate preparations.

Barley-water, however, is much more frequently prepared by nurſes than apothecaries, particularly in its ſimple ſtate. The compound decoction contains a large proportion of ſaccharine and mucilaginous matter, and may be employed for the ſame purpoſes as the *decoctum altheæ* of the Edinburgh pharmacopœia.

DECOCTUM GUAIACI COMPOSITUM, vulgo DECOCTUM LIGNORUM.

Edinb.

Compound Decoction of Guaiacum, commonly called *Decoction of the Woods.*

Take of
Guaiacum raſpings, three ounces ;
Raiſins ſtoned, two ounces ;
Saſſafras root, ſhaved,
Liquorice, ſliced, each one ounce;
Water, ten pounds.
Boil the guaiacum and raiſins with the water, over a gentle fire, to the conſumption of one half ; adding, towards the end, the ſaſſafras and liquorice. Strain the liquor without expreſſion.

This decoction is very well contrived ; and if its uſe be duly continued, it will do great ſervice in ſome cutaneous diſeaſes, in what has been called foulneſs of the blood and juices, and in ſome diſorders of the breaſt ; particularly in phlegmatic habits. It may be taken by itſelf to the quantity of a quarter of a pint twice or thrice a day, or uſed as an aſſiſtant in a courſe of mercurial or antimonial alteratives ; the patient in either caſe keeping warm, in order to promote the operation of the medicine. The raſpings expoſes a larger ſurface to the action of the water than the ſhavings directed in the former edition of the pharmacopœia.

DECOCTUM SARSAPARILLÆ.

Lond. Edinb.

Decoction of Sarſaparilla.

Take of
The root of ſarſaparilla, ſliced,

ſix ounces;
Diſtilled water, eight pints.
Macerate for two hours, with an heat of about 195°; then take out the root, and bruiſe it; return the bruiſed root into the liquor, and again macerate it for two hours. Then the liquor being boiled to four pints, preſs it out, and ſtrain.

This decoction is an article in very common uſe, particularly in venereal affections. And there can be little doubt, that by this proceſs the medical powers of the ſarſaparilla are fully extracted. But it has of late been much queſtioned, whether this article be in any degree intitled to the high character which was once given of it. Some, as we have already obſerved, are even diſpoſed to deny its poſſeſſing any medical power whatever.

DECOCTUM SARSAPARILLÆ COMPOSITUM.

Lond.

Compound decoction of Sarſaparilla.

Take of
The root of ſarſaparilla, ſliced and bruiſed, ſix ounces;
Bark of ſaſſafras root,
Raſpings of guaiacum,
Liquorice root, bruiſed, of each one ounce;
Bark of mezereon root, three drachms;
Diſtilled water, ten pints.
Macerate, with a gentle heat, for ſix hours; then boil it down to five pints, adding, towards the end, the bark of mezereon root, and ſtrain the liquor.

This compound decoction is an elegant mode of preparing an article once highly celebrated under the title of the *Liſbon diet drink.* That formula for a long time after its firſt introduction into Britain, was kept a ſecret; but an account of the method of its preparation was at length publiſhed in the Phyſical and Literary Eſſays of Edinburgh, by Dr Donald Monro. It is highly probable, that its good effects principally depend on the impregnation it receives from the mezereon; and all the good effects of this compound may be produced from the following more ſimple one.

DECOCTUM MEZEREI.

Edin.

Decoction of Mezereon.

Take of
The bark of mezereon root, two drachms;
Liquorice root, bruiſed, half an ounce;
Water, three pounds.
Boil it with a gentle heat, down to two pounds, and ſtrain it.

DECOCTUM SENEKÆ.

Edin.

Decoction of Seneka.

Take of
Seneka root, one ounce;
Water, two pounds.
Boil to ſixteen ounces, and ſtrain.

The virtues of this decoction will be eaſily underſtood from thoſe of the root from which it is prepared. The doſe, in hydropic caſes, and rheumatic or arthritic complaints, is two ounces, three or four times a day, according to its effect.

DECOCTUM ULMI.
Lond.
Decoction of Elm.

Take of
The freſh inner bark of elm, bruiſed, four ounces;
Diſtilled water, four pints.
Boil to two pints, and ſtrain.

Decoction has been the chief, if not the only, form in which elm-bark has been employed for combating thoſe cutaneous eruptions againſt which it has of late been ſo highly celebrated. Any experience which we have had of it, however, in actual practice, by no means confirms the very favourable account which ſome have given of its uſe.

MUCILAGO AMYLI.
Lond. Edin.
Mucilage of Starch.

Take of
Starch, three drachms;
Diſtilled water, one pint.
Rub the ſtarch, by degrees adding the diſtilled water; then boil it a little time.
The Edinburgh pharmacopœia orders half an ounce of ſtarch, to a pound of water.

The mucilage of ſtarch thus formed is very uſeful in thoſe caſes where a glutinous ſubſtance is required; it is often ſucceſsfully employed, as a glyſter, in diarrhœas depending on acrimony in the inteſtines.

MUCILAGO ARABICI GUMMI.
Lond.
Mucilage of Gum Arabic.

Take of
Gum arabic, powdered, four ounces;
Boiling diſtilled water, eight ounces.
Rub the gum with the water until it be diſſolved.

MUCILAGO GUMMI ARABICI.
Edinb.
Mucilage of Gum Arabic.

Take of
Gum arabic, beat into powder, and warm water, each equal weights.
Digeſt, and frequently ſtir them till the gum be diſſolved, then preſs the ſolution through linen.

It is very neceſſary to paſs the mucilage through linen in order to free it from pieces of wood and other impurities, which always adhere to the gum; the linen may be placed in a funnel.

Mucilage of gum arabic is very uſeful in many operations in pharmacy: it is alſo much uſed for properties peculiar to thoſe ſubſtances of its own claſs, and of all the gums it ſeems to be the pureſt.

MUCILAGO TRAGACANTHÆ.
Lond.
Mucilage of Tragacanth.

Take of
Tragacanth, half an ounce;
Diſtilled water, ten ounces, by meaſure.
Macerate them, with a gentle heat,

heat, till the tragacanth be diſſolved.

MUCILAGO GUMMI TRAGACANTHÆ.

Edinb.

Mucilage of Gum Tragacanth.

Take of
- Gum tragacanth, powdered, one ounce ;
- Hot water, eight ounces.

Macerate twenty-four hours ; then mix them, by rubbing briſkly, that the gum may be diſſolved ; and preſs the mucilage through linen cloth.

This gum is more difficultly ſoluble in water than gum arabic, and ſeems to be conſiderably more adheſive ; it is therefore fitter for forming troches, and ſuch like purpoſes. It has been thought to be more peculiarly what has been called a pectoral, than the other gums ; but this does not ſeem to be certainly founded. This mucilage is perhaps preferable to the foregoing in thoſe operations in pharmacy where much tenacity is required ; as in the ſuſpenſion of mercury, or other ponderous bodies.

MUCILAGO SEMINIS CYDONII MALI.

Lond.

Mucilage of Quince-ſeed.

Take of
- Seeds of the quince, one drachm ;
- Diſtilled water, eight ounces, by meaſure.

Boil with a ſlow fire for ten minutes : then paſs it through linen.

This is a pleaſant ſoft mucilage, of a ſomewhat ſweetiſh taſte, and a light agreeable ſmell : in theſe reſpects, and in its eaſy ſolubility in water, it differs from the mucilage of gum tragacanth, to which ſome have ſuppoſed it ſimilar : it has another difference, to its diſadvantage, being apt to grow mouldy in keeping.

INFUSUM GENTIANÆ COMPOSITUM.

Lond.

Compound Infuſion of Gentian.

Take of
- The root of gentian, one drachm ;
- Dried orange peel, a drachm and an half ;
- Freſh outer-rind of lemons, half an ounce ;
- Boiling water, twelve ounces, by meaſure.

Macerate for an hour, and ſtrain.

INFUSUM AMARUM, ſive INFUSUM GENTIANÆ COMPOSITUM.

Edinb.

Bitter Infuſion, or compound infuſion of Gentian.

Take of
- Gentian root, half an ounce ;
- Dried peel of Seville oranges, one drachm ;
- Coriander ſeeds, half a drachm ;
- Proof-ſpirit, four ounces ;
- Water, one pound.

Firſt pour on the ſpirit, and three hours thereafter add the water ; then macerate without heat for a night, and ſtrain.

These formulæ do not materially differ. That of the London college is the moſt expeditious mode of preparation : But that of the Edinburgh college poſſeſſes other advantages, which outweigh that circumſtance.

In former editions of the Edinburgh Pharmacopœia, the water was directed to be boiling; this was at leaſt unneceſſary, and was liable to the objections obſerved againſt decoctions. The proof ſpirit is an uſeful addition, as it aſſiſts in extracting the reſinous parts, and preſerving the infuſion from fermentation, and at the ſame time communicates an agreeable pungency to the liquor. This infuſion is an extremely good bitter, and is of great ſervice in all caſes where bitters in general are neceſſary. It ſtrengthens the ſtomach and increaſes appetite; beſides acting as a tonic on the other parts of the body and on the vaſcular ſyſtem.

INFUSUM CATECHU, vulgo INFUSUM JAPONICUM.

Edin.

Infuſion of Catechu, commonly called *Japonic Infuſion.*

Take of
- Extract of Catechu, two drachms and an half;
- Cinnamon, half a drachm;
- Boiling water, ſeven ounces;
- Simple ſyrup, one ounce.

Macerate the extract and cinnamon in the hot water in a covered veſſel for two hours, then ſtrain it and add the ſyrup.

This infuſion is ſomewhat like a decoction that had formerly a place in our pharmacopœias, under the name of *Decoctum japonicum*, in which, however, ſome opium entered. It is a very agreeable medicine, and will be found ſerviceable in fluxes proceeding from a laxity of the inteſtines. Its doſe is a ſpoonful or two every other hour.

INFUSUM SENNÆ SIMPLEX.

Lond.

Simple Infuſion of Senna.

Take of
- Senna, an ounce and a half;
- Ginger, powdered, one drachm;
- Boiling diſtilled water, one pint.

Macerate them for an hour, in a covered veſſel; and ſtrain the liquor when cold.

This, although a ſimple, is a very elegant infuſion of ſenna, the ginger acting as an uſeful corrigent. But if the ſenna were employed to the quantity of a drachm and an half, or two drachms only, with the ſame menſtruum, in place of the quantity here ordered, it would be a no leſs uſeful medicine, and might be employed for one doſe, as it is beſt when freſh. Of the preſent infuſion, an ounce or two is a ſufficient doſe.

INFUSUM SENNÆ TARTARISATUM.

Lond.

Tartariſed infuſion of Senna.

Take of
- Senna, one ounce and a half;
- Coriander-ſeeds, bruiſed, half an ounce;
- Cryſtals of tartar, two drachms;
- Diſtilled water, one pint.

Diſſolve the cryſtals of tartar by boiling in the water; then pour the boiling hot ſolution on the ſenna and ſeeds. Macerate for an hour in a covered veſſel, and ſtrain when cold.

Formerly an alkaline ſalt was uſed in the infuſion of ſenna, inſtead of the acid one here directed.

The firſt was ſuppoſed to promote the operation of the medicine, by ſuperadding a degree of purgative virtue of its own, and by enabling the water to extract ſomewhat more from the capital ingredient than it would be capable of doing by itſelf; while acids were alleged to have rather a contrary effect. Experience, however, has ſufficiently ſhewn, that alkaline ſalts increaſe the offenſiveneſs of the ſenna, while cryſtals of tartar conſiderably improve the colour of the infuſion, and likewiſe render the taſte to ſome perſons leſs diſagreeable. Soluble tartar ſhould ſeem a good ingredient in theſe kinds of compoſitions, as it not only improves the taſte, but promotes the purgative virtue of the medicine; this addition alſo renders the infuſion leſs apt to gripe, or occaſion flatulencies.

INFUSUM TAMARINDORUM cum SENNA.

Edinb.

Infuſion of Tamarinds with Senna.

Take of
- Tamarinds, ſix drachms;
- Cryſtals of tartar,
- Senna, each one drachm;
- Coriander-ſeeds, half a drachm;
- Brown ſugar, half an ounce;
- Boiling water, eight ounces.

Macerate in a cloſe earthen veſſel, not glazed with lead; ſtir the liquor now and then, and after it has ſtood four hours ſtrain it.

It may alſo be made with double, triple, &c. the quantity of ſenna.

Both this and the former infuſions might be made with cold water. By this means the aromatic quality of the coriander ſeeds would probably be extracted in a more perfect ſtate; but the cryſtals of tartar are ſo difficultly ſoluble in cold water, that for extemporaneous uſe it is in ſome meaſure neceſſary to prepare them in the manner here directed: it is not indeed probable, that when ſuch ſoluble matters as acids and ſugar are preſented to water, the water ſhall be able to extract ſuch a quantity of the finer volatile part of aromatics as to afford any conſiderable flavour to the liquor; where an aromatic is required, we would therefore propoſe, that ſome agreeable aromatic water ſhould be mixed with the liquor immediately before ſwallowing it; or that a quantity of aromatic oil ſhould be incorporated with the cold infuſion by means of gum, or a part of the ſugar which might be reſerved for that purpoſe. It is a very neceſſary caution not to make this infuſion in veſſels glazed with lead, otherwiſe the acid might corrode the lead, and communicate its poiſonous quality to the infuſion.

Both theſe infuſions are mild and uſeful purges; the latter in particular is excellently ſuited for delicate ſtomachs, at the ſame time that it is very much calculated for febrile and other acute diſeaſes. It is obſervable, that ſugar added to neutral ſalts, rather increaſes than diminiſhes their nauſeouſneſs; but when uſed along with an acid, ſuch as tamarinds, or a ſalt wherein the acid predominates, as in cryſtals of tartar, it is found very much to improve their taſte: the acid in this infuſion, or rather the combination of acid and ſweet, are found to cover the taſte of the ſenna very effectually; the aromatic ſerves alſo the ſame purpoſe, but would perhaps be better applied in the way above propoſed.

INFUSUM ROSÆ.
Lond.
Infuſion of the Roſe.

Take of
- Dried red roſe-buds, half an ounce;
- Dilute vitriolic acid, three drachms;
- Boiling diſtilled water, two pints and a half;
- Double-refined ſugar, one ounce and a half.

To the water, firſt poured on the petals in a glaſs veſſel, add the dilute vitriolic acid, and macerate for half an hour. Strain the liquor when cold, and add the ſugar.

INFUSUM ROSARUM, vulgo TINCTURA ROSARUM.
Edinb.
Infuſion of Roſes, commonly called *Tincture of Roſes.*

Take of
- Red roſes, dried, one ounce;
- Boiling water, five pounds;
- Vitriolic acid, one drachm;
- White ſugar, two ounces.

Macerate the roſes with the boiling water in a veſſel not glazed with lead, four hours; then having poured on the acid, ſtrain the liquor, and add the ſugar,

Some have directed the vitriolic acid to be dropped upon the roſes before the water is put to them; but this method is certainly faulty; for ſuch of the roſes as this cauſtic liquor falls on undiluted, will be burnt up by it, and have their texture deſtroyed. Others have made the infuſion of the roſes in the mixture of water and acid, as in the formula given by the London college: but the acid weakens the power of the water as a menſtruum; and hence the formula of the Edinburgh college is preferable. The infuſion ſhould be made in a glaſs or ſtone-ware veſſel rather than an earthen one glazed with lead, which the acid will be apt to corrode.

This infuſion is of an elegant red colour, and makes a very grateful addition to juleps in hæmorrhagies, and in all caſes which require mild coolers and ſubaſtringents; it is ſometimes taken with boluſes or electuaries of the bark, and likewiſe makes a good gargle; but although in our pharmacopœias it has its name from the roſes, yet its virtues are to be aſcribed chiefly, if not entirely, to the vitriolic acid.

INFUSUM RHEI.
Edinb.
Infuſion of Rhubarb.

Take of
- Rhubarb, half an ounce;
- Boiling water, eight ounces;
- Spirit of cinnamon, one ounce.

Macerate the rhubarb in a glaſs veſſel with the boiling water for a night; then having added the ſpirit of cinnamon, ſtrain the liquor.

This appears to be one of the beſt preparations of rhubarb, when deſigned as a purgative; water extracting its virtue more effectually than either vinous or ſpirituous menſtrua: and the London college might have given it a place in their Pharmacopœia as well as the *vinum* or *tinctura rhabarbari.*

AQUA CALCIS.

Lond.

Lime-water.

Take of
- Quicklime, half a pound ;
- Boiling diſtilled water, twelve pints.

Mix, and ſet it aſide in a covered veſſel for an hour ; then pour off the liquor, which keep in a cloſe ſtopt veſſel.

Edinb.

Take half a pound of freſh burnt quicklime ; put it into an earthen veſſel, and gradually ſprinkle on it four ounces of water, keeping the veſſel ſhut while the lime grows hot and falls into powder. Then pour on it twelve pounds of water, and mix the lime thoroughly with the water by ſhaking. After the lime has ſubſided renew the ſhaking ; and let this be done about ten times, always keeping the veſſel ſhut that the acceſs of the air may be the more effectually prevented. Laſtly, let the water be filtered through paper placed in a funnel cloſe ſhut at its top ; and it muſt be kept in very cloſe ſtopt veſſels.

THE reaſon of adding the water by degrees to the lime is, that when poured on at once, it reduces the external part to a kind of muddy ſubſtance, or ſoft paſte, which in ſome meaſure defends the internal part from being acted on by the water. The different proportions of water in the two above preſcriptions occaſion no ſenſible difference in the ſtrength of the product ; the quicklime is far from yielding all its ſoluble parts to either proportion ; the remainder giving a ſtrong impregnation to many freſh quantities of water, though not ſo ſtrong as to the firſt. The caution of keeping the lime water in cloſe-ſtopt veſſels ought to be ſtrictly attended to, for in open ones the calcareous matter diſſolved in the liquor ſoon begins to ſeparate, and forms a white cruſt on the ſurface. This is not a ſalt, as ſome have imagined ; but an inſipid earth, no longer miſcible with watery liquors. The theory of its production will be eaſily underſtood from what we have ſaid on the article FIXED AIR. The ſeparation firſt takes place at the ſurface, as being the part immediately applied to the common air : as long as the cruſt remains entire, the cloſeneſs of its texture ſo excludes the air, that the reſt of the water ſtill remains impregnated with lime ; but when this pellicle is broken by any means, it ſoon ſinks to the bottom, and expoſes a new ſurface for the ſeparation of the lime. In this way a ſucceſſion of cruſts and precipitations are formed, till the whole of the once cauſtic and ſoluble quicklime is now found, at the bottom of the veſſel, in the ſtate of a mild inſoluble calcareous earth, leaving the water perfectly inſipid. The formation of theſe cruſts, and their ſucceſſive precipitations, are owing to the abſorption of fixed air, or aerial acid, from the atmoſphere : and the mild inſoluble ſtate of theſe precipitations is alſo owing to the ſame cauſe.

The diſtilled water recommended by the London college is certainly preferable to common ſpring water ; the purity of which can rarely be depended on.

Lime-water has been thought of great ſervice in ſcrophulous complaints; but perhaps on no very good foundation. It has alſo been uſed both internally and externally for various affections of the ſkin. It ſeems to be very conſiderably aſtringent, and has been uſeful in ſome kinds of alvine fluxes, in diabetes, leucorrhœa, and in ſundry other diſorders proceeding from a laxity or debility of the ſolids.

Its more common uſe is in affections of the ſtomach accompanied with acidity and flatulence: for which laſt complaint, the mild or aerated earths are leſs proper, on account of the ſeparation of air on their meeting with an acid in the ſtomach. Lime-water is alſo capable of diſſolving mucus; and may therefore be uſed where redundance of the inteſtinal mucus affords a nidus for worms, or gives riſe to other complaints. It has alſo been found, that lime-water injected into the anus immediately kills aſcarides. The lithontriptic powers of lime-water ſeem at preſent to be much doubted. Lime-water is given in doſes proportioned to the nature of the complaints; in ſome caſes, as in diabetes, it may be given in divided portions to the extent of two quarts a-day. It is uſed externally for waſhing what are called *foul* or *ill-conditioned ulcers*; it is alſo injected into the vagina and other parts affected with preternatural diſcharges from laxity.

The uſe of lime-water in ſcurvy is very doubtful.

ACETUM SCILLÆ.

Lond.

Vinegar of Squills.

Take of
Squills, dried, one pound;
Vinegar, ſix pints;
Proof-ſpirit, half a pint.

Macerate the ſquills in the vinegar, with a gentle heat, in a glaſs veſſel, for twenty-four hours; then preſs out the liquor, and ſet it by that the feces may ſubſide: laſtly, pour off the liquor, and add to it the ſpirit.

ACETUM SCILLITICUM.

Edinb.

Squill Vinegar.

Take of
Dried root of ſquills, two ounces;
Diſtilled vinegar, two pounds and a half;
Rectified ſpirit of wine, three ounces.

Macerate the ſquills with the vinegar eight days; then preſs out the vinegar, to which add the ſpirit; and when the feces have ſubſided, pour off the clear liquor.

Vinegar of ſquills is a medicine of great antiquity: we find, in a treatiſe attributed to Galen, an account of its preparation, and of many particular virtues then aſcribed to it. It is a very powerful ſtimulant; and hence it is frequently uſed, with great ſucceſs, as a diuretic and expectorant. The doſe of this medicine is from a drachm to half an ounce: where crudities abound in the firſt paſſages, it may be given at firſt in a larger doſe, to evacuate them by vomiting. It is moſt conveniently exhibited along with cinnamon, or other agreeable aromatic waters, which prevent the nauſea it would otherwiſe, even in ſmall doſes, be apt to occaſion.

ACETUM AROMATICUM.

Edinb.

Aromatic Vinegar.

Take of

Tops of roſemary,

Leaves of ſage, each four ounces;

Flowers of lavender, two ounces;

Cloves, two drachms;

Vinegar, eight pounds.

Macerate for four days, expreſs the liquor, and ſtrain it.

This may be conſidered as an elegant improvement of what had formerly a place in the foreign pharmacopœias, under the title of *Acetum prophylacticum*, which contained not only the preſent articles, but alſo a confuſed farrago of others, as wormwood, rue, garlic, cinnamon, &c.

It is ſaid, that during the plague at Marſeilles, four perſons, by the uſe of the acetum prophylacticum as a preſervative, attended unhurt, multitudes of thoſe who were infected; that under colour of thoſe ſervices, they robbed both the ſick and the dead; and that one of them, being afterwards apprehended, ſaved himſelf from the gallows by diſcovering the remedy. The preparation was hence called *Vinaigre des quatre voleurs;* "The vinegar "of the four thieves." It is not to be doubted, that vinegar, impregnated with antiſeptic vegetables, will greatly contribute to prevent the effects of contagious air. And in the preſent acetum aromaticum, we have a ſtronger and better impregnation, than from the numerous articles which were employed. We cannot, however, imagine that it will be able to counteract the contagion of the plague: but it may on different occaſions be more powerful than vinegar in its ſimple ſtate, for impregnating with antiſeptic vapours the chambers of the ſick.

ACETUM ROSACEUM.

Suec.

Vinegar of Roſes.

Take of

The flowers of red roſes, dried, any quantity; add to them twelve times their weight of vinegar.

Macerate for four days, and ſtrain through paper.

This has been chiefly uſed for embrocating the head and temples in ſome kinds of headach, &c. in which it has now and then been of ſervice. It has alſo been uſed for certain caſes of ophthalmia; but before it can be applied to the eyes, it will in general require to be diluted with water.

ACETUM COLCHICI.

Roſs.

Vinegar of Colchicum.

Take of

The recent root of colchicum, cut into ſlices, one ounce;

Vinegar, one pound

Macerate with a gentle heat for two days; then ſtrain after ſlight expreſſion.

Although in our pharmacopœias a place be given to the oxymel and ſyrup of colchicum, both of which are formed from the vinegar, yet the vinegar itſelf is not directed to be kept in its ſeparate ſtate: Under this form however it may often be employed with advantage.

AQUA PICEA.

Suec.

Tar water.

Take of

Tar, two pounds;
Water, one gallon.

Stir them ſtrongly together with a wooden rod; and after ſtanding to ſettle for twelve hours, pour off the water for uſe.

Tar-water was recommended to the world as a certain and ſafe medicine in almoſt all diſeaſes; a ſlow yet effectual alterative in cachexies, ſcurvies, chlorotic, hyſterical, hypochondriacal, and other chronical complaints; and a ſudden remedy in acute diſtempers which demand immediate relief, as pleuriſies, peripneumonies, the ſmall-pox, and all kinds of fevers in general. This medicine, though certainly far inferior to the character that has been given of it, is doubtleſs in many caſes of conſiderable utility: it ſenſibly raiſes the pulſe; and occaſions ſome conſiderable evacuation, generally by perſpiration or urine, though ſometimes by ſtool or vomit.

We ſhall here inſert, from the firſt public recommender of this liquor (Biſhop Berkeley), ſome obſervations on the manner of uſing it. "Tar water, when right, is "not paler than French, nor deeper "coloured than Spaniſh white "wine, and full as clear; if there "be not a ſpirit very ſenſibly per"ceived in drinking, you may "conclude the tar-water is not "good. It may be drank either "cold or warm. In colics, I take "it to be beſt warm. As to the "quantity, in common chronical "indiſpoſitions, a pint a-day may "ſuffice, taken on an empty ſto"mach, at two or four times, to "wit, night and morning, and "about two hours after dinner "and breakfaſt: more may be "taken by ſtronger ſtomachs. But "thoſe who labour under great and "inveterate maladies, muſt drink "a greater quantity, at leaſt a "quart every twenty-four hours. "All of this claſs muſt have much "patience and perſeverance in the "uſe of this, as well as of all other "medicines, which though ſure, "muſt yet in the nature of things "be ſlow in the cure of inveterate "chronical diſorders. In acute "caſes, fevers of all kinds, it muſt "be drank in bed warm, and in "great quantity (the fever ſtill en"abling the patient to drink), per"haps a pint every hour, which I "have known to work ſurpriſing "cures. But it works ſo quick, "and gives ſuch ſpirits, that the "patients often think themſelves "cured before the fever has quite "left them."

Notwithſtanding theſe encomiums, tar-water ſeems to have loſt its reputation. It is not probable that water can take up much of the more active principles of the tar; and it would perhaps be more convenient to ſeparate its acid by diſtillation, and mix it with water occaſionally: for it is pretty certain, that the water can only take up the acid of the tar, perhaps charged with a very ſmall quantity of oily matter in the ſtate of an acid ſope.

CHAP. XXI.

VINA MEDICATA.

MEDICATED WINES.

THE original intention of medicated wines was, that medicines which were to be continued for a length of time, might be taken in the moſt familiar and agreeable form; by this means a courſe of remedies was complied with, notwithſtanding the repugnance and averſion, which the ſick often manifeſt to thoſe directly furniſhed from the ſhops; and hence the inferior ſorts of people had their medicated ales. Nevertheleſs, as vinous liquors excellently extract the virtues of ſeveral ſimples, and are not ill fitted for keeping, they have been employed as officinal menſtrua alſo; and ſubſtances of the greateſt efficacy are truſted to in this form. As compounds of water and inflammable ſpirits, they take up ſuch parts of vegetables and animals as are ſoluble in thoſe liquors; though moſt of them abound at the ſame time with a mucilaginous or viſcous ſubſtance, which renders them leſs effectual menſtrua than purer mixtures of water and ſpirit. They contain likewiſe a ſubtile acid, which ſomewhat further obſtructs their action on certain vegetable and animal matters; but enables them, in proportion to its quantity, to diſſolve ſome bodies of the metallic kind, and thus impregnate themſelves with the corroborating virtues of ſteel, the alterative and emetic powers of antimony, and the noxious qualities of lead.

To all the medicated wines, after they have been ſtrained, you may add about one twentieth their quantity of proof-ſpirit, to preſerve them from fermentation. They may be conveniently kept in the ſame kind of glaſs bottles that wines are generally kept in for common uſes, which ſhould likewiſe be corked with the ſame care.

VINUM ALOES.
Lond.
Wine of Aloes.

Take of
Socotorine aloes, eight ounces;
Canella alba, two ounces;
Spaniſh white-wine, ſix pints;
Proof-ſpirit, two pints.

Powder the aloes and canella ſeparately; when mixed pour on them the wine and ſpirit: digeſt for fourteen days, now and then ſhaking them; and ſtrain.

It will not be amiſs to mix white ſand, cleanſed from impurities, with the powder, in order to prevent the moiſtened aloes from getting into lumps.

VINUM ALOETICUM, vulgo TINCTURA SACRA.

Edin.

Aloetic wine, commonly called *Sacred Tincture.*

Take of

Socotorine aloes, one ounce;
Leſſer cardamom ſeeds,
Ginger, each one drachm;
Spaniſh white wine, two pounds.

Digeſt for ſeven days, ſtirring now and then, and afterwards ſtrain.

This medicine has long been in great eſteem not only as a cathartic, but likewiſe as a ſtimulus; the wine diſſolving all that part of the aloes in which theſe qualities reſide, a portion only of the leſs active reſinous matter being left. The aromatic ingredients are added to warm the medicine, and ſomewhat correct the ill flavour of the aloes.

The *tinctura ſacra* appears from long experience to be a medicine of excellent ſervice. The doſe, as a purgative, is from one to two ounces. It may be introduced into the habit, ſo as to be productive of excellent effects, as an alterant, by giving it in ſmall doſes, at proper intervals: thus managed, it does not for a conſiderable time operate remarkably by ſtool: but at length proves purgative, and occaſions a lax habit of much longer continuance than that produced by the other common cathartics.

VINUM AMARUM, ſive GENTIANÆ COMPOSITUM.

Edin.

Bitter wine, or *compound gentian wine.*

Take of

Gentian root, half an ounce;
Peruvian bark, one ounce;
Seville orange-peel, dried, two drachms;
Canella alba, one drachm;
Proof-ſpirit, four ounces;
Spaniſh white wine, two pounds and a half.

Firſt pour on the ſpirit, and after twenty four hours add the wine; then macerate for three days, and ſtrain.

This wine is intended to ſupply the place of the *Tinctura ad ſtomachicos*, as it was formerly called. Wine is a menſtruum fully capable of extracting the active powers of the different ingredients; and it ſupplies us with a very uſeful and elegant ſtomachic medicine, anſwering the purpoſes intended much better than the celebrated elixir of Van Helmont, and other unchemical and uncertain preparations, which had formerly a place in our pharmacopœias.

VINUM ANTIMONII.

Lond.

Wine of Antimony.

Take of

Vitrified antimony, powdered, one ounce;
Spaniſh white wine, a pint and an half.

Digeſt for twelve days, frequently

ſhaking the veſſel, and filter the wine through paper.

However carefully the ſettling and decantation are performed, the filtration of the wine through paper appears to be neceſſary, leſt ſome of the finer parts of the glaſs ſhould chance to remain ſuſpended in the wine. The matter left undiſſolved by the menſtruum is not, as in moſt other wines and tinctures, of little conſequence; the antimonial glaſs, after the action of the wine, continues as virulent as ever, and is capable of impregnating freſh parcels of the liquor as ſtrongly as the firſt, and this, in appearance, inexhauſtibly. After thirty repeated infuſions, it has been found ſcarce ſenſibly diminiſhed in weight.

The antimonial wine poſſeſſes the whole virtues of that mineral, and may ſo be doſed and managed as to perform all that can be effected by any antimonial preparation; with this advantage, that as the active part of the antimony is here already diſſolved and rendered miſcible with the animal fluids, its operation is more certain. From ten to fifty or ſixty drops, generally act as an alterative and diaphoretic; larger doſes act as a diuretic and cathartic; while three or four drachms prove for the moſt part violently emetic. It has been chiefly uſed with this laſt intention, in ſome maniacal and apoplectic caſes; and hence it gained the name of emetic wine.

The quantity of the reguline part muſt, however, vary according to the proportions of the acid matter in different wines, and the operation of the medicine muſt be thereby leſs certain in degree; the vitrum is preferable to the crocus for making this preparation. See the different preparations of ANTIMONY, chap. 10.

VINUM ANTIMONII TARTARISATI.

Lond.

Wine of Tartariſed Antimony.

Take of
- Tartariſed antimony, two ſcruples;
- Boiling diſtilled water, two ounces;
- Spaniſh white wine, eight ounces.

Diſſolve the tartariſed antimony in the boiling diſtilled water, and add the wine.

VINUM ANTIMONII TARTARISATI, vulgo VINUM ANTIMONIALE.

Edin.

Wine of Tartariſed Antimony, commonly called *Antimonial wine.*

Take of
- Tartariſed antimony, twenty four grains;
- Spaniſh white wine, one pound.

Mix them ſo as that the antimony may be diſſolved.

Watery ſolutions of emetic tartar, on ſtanding, precipitate a part which is leſs completely in a ſaline ſtate; by this means, and eſpecially if the ſolution be not ſhaken before uſing it, the doſe of that medicine is ſomewhat ambiguous: in the above formula, the acid matter of the wine increaſes the ſaline ſtate of the antimony and therefore its ſolubility, whereby the operation of the medicine is more certain, and in many caſes more powerful. From the certainty of its effects, this preparation might be very convenient in large hoſpitals or armies, where great numbers of the ſick, and inaccurate nurſing, frequently occaſion an uncertain or dangerous practice.

In the formula employed by the Edinburgh college, each ounce of the wine contains two grains of the tartariſed antimony; but in that of the London college, each ounce of the menſtruum contains four grains; hence, while an ounce of the one may be employed for exciting full vomiting, the ſame quantity of the other would be too ſtrong a doſe. It is much to be regretted that in articles of this active nature, the proportions employed by the two colleges ſhould differ ſo conſiderably: and it would perhaps have been better, had the London college adopted the proportions employed by that of Edinburgh, as they have followed them in adopting this formula.

VINUM FERRI.

Lond.

Wine of Iron.

Take of
Iron filings, four ounces;
Spaniſh white wine, four pints.
Digeſt for a month, often ſhaking the veſſel, and then ſtrain.

This formula of the London pharmacopœia is now not only ſimplified, but improved, when compared with their former *vinum chalybeatum*: for the cinnamon and other articles which were then conjoined with the iron, were certainly rather prejudicial than otherwiſe; but, at the ſame time, Rheniſh wine, formerly employed, is a better menſtruum than the Spaniſh wine now directed. The medicine may ſtill, however, be juſtly conſidered as a good chalybeate.

Steel wine, as it was formerly called, is a very uſeful preparation of this metal, and frequently exhibited in chlorotic and other indiſpoſitions where chalybeates are proper. The doſe is from a drachm to half an ounce; which may be repeated twice or thrice a day.

Some direct ſolutions of iron, made in wine or other vegetable acids, to be evaporated to the conſiſtence of an extract, under the title of Extractum Martis. Theſe preparations have no advantage, in point of virtue, above the common chalybeates: though, in ſome forms, that of pills in particular, they may be rather more commodiouſly exhibited than moſt of the officinal chalybeates of equal efficacy. They may be made into pills by themſelves, and are tenacious enough to reduce other ſubſtances into that form.

VINUM IPECACUANHÆ.

Lond.

Wine of Ipecacuanha.

Take of
The root of ipecacuanha, bruiſed, two ounces;
Spaniſh white wine, two pints.
Digeſt for ten days, and ſtrain.

VINUM, vulgo TINCTURA IPECACUANHÆ.

Edinb.

Wine, commonly called *Tincture of Ipecacuanha.*

Take of
Ipecacuanha, in powder, one ounce;
Spaniſh white wine, fifteen ounces.
After three days maceration, let the tincture be filtrated for uſe.

Both theſe wines are very mild and ſafe emetics, and equally ſerviceable in dyſenteries, with the ipecacuanha in ſubſtance; this root yielding nearly all its virtues to the Spaniſh white wine, here ordered, as it does a good ſhare of them even to aqueous liquors. The common doſe is an ounce, more or leſs, according to the age and ſtrength of the patient. The college of Edinburgh formerly added a ſcruple of cochineal, which imparts a fine red colour to the liquor: this article is now omitted, on a complaint, that the red colour of the matters evacuated, ſometimes alarmed the patient, as if it proceeded from a diſcharge of blood.

VINUM RHABARBARI.
Lond
Wine of Rhubarb.

Take of
 Sliced rhubarb, two ounces and an half;
 Leſſer cardamom-ſeeds, bruiſed and huſked, half an ounce;
 Saffron, two drachms;
 Spaniſh white wine, two pints;
 Proof ſpirit, half a pint.
Digeſt for ten days, and ſtrain.

VINUM RHEI.
Edin
Rhubarb Wine.

Take of
 Rhubarb, two ounces;
 Canella alba, one drachm;
 Proof ſpirit, two ounces;
 Spaniſh white wine, fifteen ounces
Macerate for ſeven days, and ſtrain.

By aſſiſting the ſolvent power of the menſtruum, the proof ſpirit in the above formulæ is a very uſeful addition. This is a warm, cordial, laxative medicine. It is uſed chiefly in weakneſs of the ſtomach and bowels, and ſome kinds of looſeneſſes, for evacuating the offending matter, and ſtrengthening the tone of the viſcera. It may be given in doſes of from half a ſpoonful to three or four ſpoonfuls or more, according to the circumſtances of the diſorder, and the ſtrength of the patient.

VINUM NICOTIANÆ.
Edinb.
Tobacco Wine.

Take of
 The dried leaves of the beſt Virginian tobacco, one ounce;
 Spaniſh white wine, one pound.
Macerate for four days, and then ſtrain the liquor.

We have already, under the article Nicotiana in the Materia Medica, offered ſome obſervations on its late introduction into practice by Dr Fowler, as a very uſeful remedy in the cure of dropſies and dyſuries. From experiments, wine extracts the active principles of tobacco better than any other menſtruum.

VINUM SCILLITICUM.
Suec.
Squill Wine.

Take of
 Dried ſquill, ſliced, one ounce;
 Ginger, one drachm;
 French white wine, two pounds.
Macerate for three days, and then ſtrain.

By the wine employed as a menſtruum, the active properties of the ſquills may be readily extracted: and in ſome caſes at leaſt the preſent formula may juſtly be conſidered as intitled to a preference over either the acetum or oxymel ſcillæ, which have a place in our pharmacopœias. The ginger here added to the ſquills operates as an uſeful corrigent; and on this account the preſent formula is preferable to the *vinum ſcilliticum* of ſome other pharmacopœias; where the ſquills alone are uſed.

CHAP. XXII.

TINCTURÆ.

TINCTURES.

RECTIFIED ſpirit of wine is the direct menſtruum of the reſins and eſſential oils of vegetables, and totally extracts theſe active principles from ſundry vegetable matters, which yield them to water either not at all, or only in part. It diſſolves likewiſe the ſweet ſaccharine matter of vegetables; and generally thoſe parts of animal bodies, in which their peculiar ſmell and taſte reſide.

The virtues of many vegetables are extracted almoſt equally by water and rectified ſpirit; but in the watery and ſpirituous tinctures of them there is this difference, that the active parts in the watery extractions are blended with a large proportion of inert gummy matter, on which their ſolubility in this menſtruum in great meaſure depends, while rectified ſpirit extracts them almoſt pure from gum. Hence, when the ſpirituous tinctures are mixed with watery liquors, a part of what the ſpirit had taken up from the ſubject generally ſeparates and ſubſides, on account of its having been freed from that matter which, being blended with it in the original vegetable, made it ſoluble in water. This, however, is not univerſal; for the active parts of ſome vegetables when extracted by rectified ſpirits, are not precipitated by water, being almoſt equally ſoluble in both menſtrua.

Rectified ſpirit may be tinged by vegetables of all colours, except blue: the leaves of plants, in general, which give out but little of their natural colour to watery liquors, communicate to ſpirit the whole of their green tincture, which for the moſt part proves elegant, though not very durable.

Fixed alkaline ſalts deepen the colour of ſpirituous tinctures; and hence they have been ſuppoſed to promote the diſſolving power of the menſtruum, though this does not appear from experience: in the trials that have been made to determine this affair, no more was found to be taken up in the deep-coloured tinctures than in the paler ones, and often not ſo much: if the alkali be added after the extraction of the tincture, it will heighten the colour as much as when mixed with the ingredients at firſt. The addition of theſe ſalts in making tinctures, is not only uſeleſs, but prejudicial, as they generally injure the flavour of aromatics, and ſuperadd a quality, ſometimes contrary to the intention of the medicine. Volatile alkaline ſalts, in many caſes, promote the action of the ſpirits. Acids generally weaken it; unleſs when the acid has been previouſly combined with the vinous ſpirit into a compound of new qualities, called *dulcified ſpirit.*

TINCTURA ALOES.

Lond. Edin.

Tincture of Aloes.

Take of
- Socotorine aloes, powdered, half an ounce;
- Extract of liquorice, an ounce and an half;
- Diſtilled water,
- Proof ſpirit, of each eight ounces.

Digeſt in a ſand-bath, now and then ſhaking the veſſel, until the extract be diſſolved, and then ſtrain.

In this ſimple tincture, all the active parts of the aloes, whether of a gummy or reſinous nature, are ſuſpended in the menſtruum. The extract of liquorice ſerves both to promote the ſuſpenſion and to cover the taſte of the aloes; and in theſe caſes where we wiſh for the operation of the aloes alone, this is perhaps one of the beſt formulæ under which it can be exhibited in a fluid ſtate.

Though the two formulæ of our pharmacopœias are apparently the ſame, the proportions of the ingredients are ſomewhat different; owing to the London College directing the water and ſpirit to be taken by meaſure, and that of Edinburgh by weight. Eight London ounce meaſures of water is, ſeven ounces, four drachms, and fifty five grains; and the ſame meaſure of proof ſpirit, ſeven ounces and thirty nine grains, Troy weight.

TINCTURA ALOES COMPOSITA.

Lond.

Compound Tincture of Aloes.

Take of
- Socotorine aloes,
- Saffron, of each three ounces;
- Tincture of myrrh, two pints.

Digeſt for eight days; and ſtrain.

TINCTURA ALOES cum MYRRHA, vulgo ELIXIR PROPRIETATIS.

Edinb.

Tincture of aloes with myrrh, commonly called *Elixir Proprietatis.*

Take of
- Myrrh in powder, two ounces;
- Socotorine aloes, an ounce and a half;
- Engliſh ſaffron, one ounce;
- Rectified ſpirit of wine,
- Proof-ſpirit, of each one pound.

Digeſt the myrrh with the ſpirits for the ſpace of four days; then add the aloes in powder, and the ſaffron; continue the digeſtion for two days longer, ſuffer the feces to ſubſide, and pour off the clear elixir.

These two formulæ, though the mode of preparation be ſomewhat varied, do not materially differ from each other; and both may be conſidered as being the *elixir proprietatis* of Paracelſus, improved with regard to the manner of preparation. The myrrh, ſaffron, and aloes, have been uſually directed to be digeſted in the ſpirit together: by this method, the menſtruum ſoon loads itſelf with the latter, ſo as ſcarcely to take up any of the myrrh; while a tincture, extracted firſt from the myrrh, readily diſſolves a large quantity of the others. The alkaline ſalt, commonly ordered in theſe preparations with a view to promote the diſſolution of the myrrh, is uſeleſs; and is accordingly now omitted. Inſtead of employing the rectified ſpirit alone, the Edinburgh college have uſed an equal portion of proof ſpirit, which is not only a more complete menſtruum, but alſo renders the medicine leſs heating.

This medicine is highly recommended, and not undeſervedly, as a warm ſtimulant and aperient. It ſtrengthens the ſtomach, evacuates the inteſtinal canal, and promotes the natural ſecretions in general. Its continued uſe has frequently done much ſervice in cachectic and icteric caſes, uterine obſtructions, and other ſimilar diſorders; particularly in cold, pale, phlegmatic habits. Where the patient is of a hot, bilious conſtitution, and florid complexion, this warm ſtimulating medicine is leſs proper, and ſometimes more prejudicial. The doſe may be from twenty drops to a tea-ſpoonful or more, twice or thrice a-day, according to the purpoſes it is intended to anſwer.

TINCTURA ALOES VITRIOLATA, vulgo ELIXIR PROPRIETATIS VITRIOLICUM.

Edinb.

Vitriolated Tincture of Aloes, commonly called *Vitriolic Elixir Proprietatis.*

Take of
- Myrrh,
- Socotorine aloes, of each an ounce and an half;
- Engliſh ſaffron, one ounce;
- Spirit of vitriolic ether, one pound.

Digeſt the myrrh with the ſpirit for four days in a cloſe veſſel; then add the ſaffron and aloes.

Digeſt again four days; and when the feces have ſubſided, pour off the tincture.

The Edinburgh College have reformed this preparation conſiderably; and eſpecially by directing the myrrh to be digeſted firſt, for the ſame reaſons as were obſerved on the preceding article. Here the ſpirit of vitriolic ether is very judiciouſly ſubſtituted for the ſpirit of ſulphur, ordered in other books of pharmacy to be added to the foregoing preparations; for that ſtrong acid precipitates from the liquor great part of what it had before taken up from the other ingredients; whereas, when the acid is previouſly combined with the vinous ſpirit, and thereby dulcified, as it is called, it does not impede its diſſolving power. This tincture poſſeſſes the general properties of the preceding, and, is, in virtue of the menſtruum, preferred to it in hot conſtitutions, and weakneſs of the ſtomach.

TINCTURA AROMATICA, ſive CINNAMOMI COMPOSITA.

Edinb.

Aromatic Tincture, or *Compound Tincture of Cinnamon.*

Take of
- Cinnamon, ſix drachms;
- Leſſer cardamom-ſeeds, one ounce;
- Garden angelica-root, three drachms;
- Long pepper, two drachms;
- Proof ſpirit, two pounds and an half.

Macerate for ſeven days, and filter the tincture.

This preparation is improved from the preceding editions by omiſſion of ſome articles, either ſuperfluous or foreign to the intention; galingal, gentian, zedoary, bay-berries, and calamus aromaticus. As now reformed, it is a ſufficiently elegant warm aromatic.

This very warm aromatic is too hot to be given without dilution. A tea-ſpoonful or two may be taken in wine, or any other convenient vehicle, in languors, weakneſs of the ſtomach, flatulencies, and other ſimilar complaints; and in theſe caſes it is often employed with advantage.

TINCTURA ASAFŒTIDÆ.

Lond.

Tincture of Aſafetida.

Take of
- Aſafetida, four ounces;
- Rectified ſpirit of wine, two pints.

Digeſt with a gentle heat for ſix days; and ſtrain.

TINCTURA ASAFŒTIDÆ, vulgo TINCTURA FŒTIDA.

Edinb.

Tincture of Aſafetida, commonly called *Fetid Tincture.*

Take of
- Aſafetida, four ounces;
- Rectified ſpirit of wine, two pounds and an half.

Digeſt for ſix days; and ſtrain.

This tincture poſſeſſes the virtues of the aſafetida itſelf; and may be given in doſes of from ten drops to fifty or ſixty. It was firſt propoſed to be made with proof-ſpirit; this diſſolves more of the aſafetida than a rectified one: but the tincture proves turbid; and therefore rectified ſpirit, which extracts a tranſparent one, is very juſtly preferred: and with this menſtruum we can at leaſt exhibit the aſafetida in a liquid form to a greater extent.

TINCTURA AURANTII CORTICIS.

Lond.

Tincture of Orange-Peel.

Take of
- Freſh orange-peel, three ounces;
- Proof-ſpirit, two pounds.

Digeſt for three days; and ſtrain.

This tincture is an agreeable bitter, flavoured at the ſame time with the eſſential oil of the orange-peel.

TINCTURA BALSAMI PERUVIANI.

Lond.

Tincture of Balſam of Peru.

Take of

Balſam of Peru, four ounces;

Rectified ſpirit of wine, one pint.

Digeſt until the balſam be diſſolved.

The whole of the Peruvian balſam is diſſolved by ſpirit of wine; this therefore may be conſidered as a good method of freeing it from its impurities; while at the ſame time it is thus reduced to a ſtate under which it may be readily exhibited: but at preſent it is very little employed, unleſs in compoſition, either under this or any other form.

TINCTURA BALSAMI TOLUTANI.

Lond.

Tincture of Balſam of Tolu.

Take of

Balſam of Tolu, one ounce and an half;

Rectified ſpirit of wine, one pint.

Digeſt until the balſam be diſſolved, and ſtrain.

TINCTURA TOLUTANA.

Edin.

Tincture of Tolu.

Take of

Balſam of Tolu, an ounce and an half;

Rectified ſpirit of wine, one pound.

Digeſt until the balſam be diſſolved; and then ſtrain the tincture.

This ſolution of Balſam of Tolu poſſeſſes all the virtues of the balſam itſelf. It may be taken internally, with the ſeveral intentions for which that balſam is proper, to the quantity of a tea-ſpoonful or two, in any convenient vehicle. Mixed with the plain ſyrup of ſugar, it forms an elegant balſamic ſyrup.

TINCTURA BENZOES COMPOSITA.

Lond.

Compound tincture of benzoin.

Take of

Benzoin, three ounces;

Storax, ſtrained, two ounces;

Balſam of Tolu, one ounce;

Socotorine aloes, half an ounce;

Rectified ſpirit of wine, two pints.

Digeſt with a gentle heat for three days, and ſtrain.

TINCTURA BENZOINI COMPOSITA, vulgo BALSAMUM TRAUMATICUM.

Edin.

Compound tincture of benzoin, commonly called *Traumatic Balſam.*

Take of

Benzoin, three ounces;

Balſam of Peru, two ounces;

Hepatic aloes, half an ounce;

Rectified ſpirit of wine, two pounds.

Digeſt them in a ſand heat, for the ſpace of ten days, and then ſtrain the balſam.

Although the London college have changed the name of this compoſition, yet they have made very little alteration on the formula which, in their laſt edition, had the name of *Traumatic balſam*; both of them are elegant contractions of ſome very complicated compoſitions, which were celebrated under different names, ſuch as Baume de Commandeur, Wade's Balſam, Friar's balſam, Jeſuit's drops &c. Theſe, in general, conſiſted of a confuſed farrago of diſcordant ſubſtances. They, however, derived conſiderable activity from the benzoin and aloes; and every thing to be expected from them may readily be obtained from the preſent formulæ.

The compound tincture of benzoin or traumatic balſam, ſtands highly recommended, externally, for cleanſing and healing wounds and ulcers, for diſcuſſing cold tumours, allaying gouty, rheumatic, and other old pains and aches; and likewiſe internally, for warming and ſtrengthening the ſtomach and inteſtines, expelling flatulencies, and relieving colic complaints. Outwardly, it is applied cold on the part with a feather; inwardly a few drops are taken at a time, in wine or any other convenient vehicle.

There is however reaſon to think that its virtues have been conſiderably over-rated; and at preſent it is much leſs employed than formerly, recourſe being chiefly had to it, in caſes of recent wounds, with the view of ſtopping hæmorrhagies, and of promoting healing by the firſt intention, as it is called.

TINCTURA CANTHARIDIS.

Lond.

Tincture of the Spaniſh Fly.

Take of
Bruiſed cantharides, two drachms;
Cochineal, powdered, half a drachm;
Proof-ſpirit, one pint and an half.
Digeſt for eight days, and ſtrain.

Edin.

Take of
Cantharides, one drachm;
Proof-ſpirit, one pound.
Digeſt for four days, and ſtrain through paper.

These tinctures poſſeſs the whole virtues of the fly, and are the only preparations of it deſigned for internal uſe: tinctures being by far the moſt commodious and ſafe form for the exhibition of this active drug. The two tinctures are ſcarcely different in virtue from each other. The cochineal is uſed only as a colouring ingredient: the gum guaiacum, camphor, and eſſential oil of juniper berries, which were formerly added, however well adapted to the intentions of cure, could be of little conſequence in a medicine limited to ſo ſmall a doſe. If any additional ſubſtances ſhould be thought requiſite for promoting the effect of the cantharides, whether as a diuretic, as a detergent of ulceration in the urinary paſſages, or as a ſpecific reſtringent of ſeminal gleets and the fluor albus, they are more advantageouſly joined extemporaneouſly to the tincture, or interpoſed by themſelves at proper intervals. The uſual doſe of theſe tinctures, is from ten to twenty drops; which may be taken in a glaſs of water, or any other more agreeable liquor, twice a day; and increaſed by two or three drops at a time, according to the effect.

The tincture of cantharides has of late been highly celebrated as a ſucceſsful remedy in diabetic caſes; and in ſome inſtances of this kind, its uſe has been puſhed to a very conſiderable extent, without giving riſe to any ſtrangurious affections: But we have not found it productive of a change for the better in any of thoſe caſes of diabetes in which we have tried it.

TINCTURA CARDAMOMI.

Lond.

Tincture of Cardamom.

Take of
- Leſſer cardamom ſeeds, huſked and bruiſed, three ounces;
- Proof ſpirit, two pints.

Digeſt for eight days, and ſtrain.

Edin.

Take of
- Leſſer cardamom ſeeds, four ounces;
- Proof-ſpirit, two pounds and an half.

Macerate for eight days, and ſtrain through paper.

Tincture of cardamoms has been in uſe for a conſiderable time. It is a pleaſant, warm cordial; and may be taken, along with any proper vehicle, in doſes of from a drachm to a ſpoonful or two.

TINCTURA CARDAMOMI COMPOSITA.

Lond.

Compound Tincture of Cardamom.

Take of
- Leſſer cardamom-ſeeds, huſked,
- Caraway-ſeeds,
- Cochineal, each, powdered, two drachms;
- Cinnamon, bruiſed, half an ounce;
- Raiſins, ſtoned, four ounces;
- Proof-ſpirit, two pints.

Digeſt for fourteen days, and ſtrain.

This tincture contains ſo ſmall a proportion of cardamoms as to be hardly intitled to derive its name from that article; and from the large proportion of raiſins which it contains, the influence of the aromatics muſt be almoſt entirely prevented.

TINCTURA CASCARILLÆ.

Lond.

Tincture of Caſcarilla.

Take of
- The bark of caſcarilla, powdered, four ounces;
- Proof-ſpirit, two pints.

Digeſt with a gentle heat for eight days, and ſtrain.

Proof-spirit readily extracts the active powers of the caſcarilla; and the tincture may be employed to anſwer moſt of thoſe purpoſes for which the bark itſelf is recommended: But in the cure of intermittents, it in general requires to be exhibited in ſubſtance.

TINCTURA CASTOREI.

Lond.

Tincture of Caſtor.

Take of
Ruſſia caſtor, powdered, two ounces;
Proof ſpirit, two pints.
Digeſt for ten days, and ſtrain.

Edinb.

Take of
Ruſſia caſtor, an ounce and a half;
Rectified ſpirit of wine, one pound.
Digeſt them for ſix days, and afterwards ſtrain off the liquor.

An alkaline ſalt was formerly added in this laſt preſcription, which is here judiciouſly rejected, as being at leaſt an uſeleſs, if not prejudicial, ingredient. It has been diſputed, whether a weak or rectified ſpirit, and whether cold or warm digeſtion, are preferable for making this tincture.

From ſeveral experiments made to determine this queſtion, it appears that caſtor macerated without heat, gives out its finer and moſt grateful parts to either ſpirit, but moſt perfectly to the rectified: that heat enables both menſtrua to extract greateſt part of its groſſer and more nauſeous matter: and that proof-ſpirit extracts this laſt more readily than rectified.

The tincture of caſtor is recommended in moſt kinds of nervous complaints and hyſteric diſorders: In the latter it ſometimes does ſervice, though many have complained of its proving ineffectual. The doſe is from twenty drops to forty, fifty, or more.

TINCTURA CASTOREI COMPOSITA.

Edin.

Compound Tincture of Caſtor.

Take of
Ruſſia caſtor, one ounce;
Aſafetida, half an ounce;
Spirit of ammonia, one pound.
Digeſt for ſix days in a cloſe ſtopped phial, and ſtrain.

This compoſition is a medicine of real efficacy, particularly in hyſterical diſorders, and the ſeveral ſymptoms which accompany them. The ſpirit here uſed is an excellent menſtruum, both for the caſtor and the aſafetida, and greatly adds to their virtues.

TINCTURA CATECHU.

Lond.

Tincture of Catechu.

Take of
Catechu, three ounces;
Cinnamon, bruiſed, two ounces;
Proof ſpirit, two pints.
Digeſt for three days, and ſtrain.

TINCTURA CATECHU, vulgo TINCTURA JAPONICA.

Edin.

Tincture of Catechu, commonly called *Japonic Tincture.*

Take of
Inſpiſſated juice of catechu, three ounces;
Proof ſpirit, two pounds and a half.
Digeſt for eight days, and ſtrain.

A tincture of this kind, with the addition of Peruvian bark, ambergris, and muſk, to the ingredients above directed, was formerly kept in the ſhops. The tincture here received, is preferable for general uſe: where any other ingredients are required, tinctures of them may be occaſionally mixed with this in extemporaneous preſcription. The cinnamon is a very uſeful addition to the catechu, not only as it warms the ſtomach, &c. but likewiſe as it improves the roughneſs and aſtringency of the other.

The tincture is of ſervice in all kinds of defluxions, catarrhs, looſeneſſes, uterine fluors, and other diſorders, where mild aſtringent medicines are indicated. Two or three tea-ſpoonfuls may be taken every now and then in red wine, or any other proper vehicle.

TINCTURA CINNAMOMI.

Lond.

Tincture of Cinnamon.

Take of
  Cinnamon, bruiſed, one ounce and an half;
  Proof-ſpirit, one pint.
Digeſt for ten days, and ſtrain.

Edin.

Take of
  Cinnamon, three ounces;
  Proof-ſpirit, two pounds and a half.
Macerate for eight days, and ſtrain.

The tincture of cinnamon poſſeſſes the reſtringent virtues of the cinnamon, as well as its aromatic cordial ones; and in this reſpect it differs from the diſtilled waters of that ſpice,

TINCTURA CINNAMOMI COMPOSITA.

Lond.

Compound Tincture of Cinnamon.

Take of
  Cinnamon, bruiſed, ſix drachms;
  Leſſer cardamom-ſeeds, huſked, three drachms;
  Long pepper,
  Ginger, of each, in powder, two drachms;
  Proof-ſpirit, two pints.
Digeſt for eight days, and ſtrain.

From the different articles, which this tincture contains, it muſt neceſſarily be of a more hot and fiery nature than the former, though much leſs ſtrongly impregnated with the cinnamon.

TINCTURA COLOMBÆ.

Lond.

Tincture of Colomba.

Take of
  Colomba root, powdered, two ounces and an half;
  Proof ſpirit, two pints.
Digeſt for eight days, and ſtrain.

Edinb.

Take of
  Colomba root, powdered, two ounces;
  Proof-ſpirit, two pounds.
Digeſt for eight days and ſtrain.

The colomba readily yields its active qualities to the menſtruum here employed; and accordingly, under this form, it may be advantageouſly employed againſt bilious vomitings, and thoſe different ſtomach ailments, in which the colomba has been found uſeful; but where there does not occur ſome objection to its uſe in ſubſtance, that form is in general preferable to the tincture.

TINCTURA CINCHONÆ, ſive CORTICIS PERUVIANI.

Lond.

Tincture of Peruvian bark.

Take of
- Peruvian bark, powdered, ſix ounces;
- Proof-ſpirit, two pints.

Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA CORTICIS PERUVIANI.

Edin.

Tincture of Peruvian bark.

Take of
- Peruvian bark, four ounces;
- Proof-ſpirit, two pounds and a half.

Digeſt for ten days, and ſtrain.

A medicine of this kind has been for a long time pretty much in eſteem, and uſually kept in the ſhops, though but lately received into the pharmacopœias. Some have employed highly-rectified ſpirit of wine as a menſtruum; which they have taken care fully to ſaturate, by digeſtion on a large quantity of the bark. Others have thought of aſſiſting the action of the ſpirit by the addition of a little fixed alkaline ſalt, which does not, however, appear to be of any advantage; and others have given the preference to the vitriolic acid, which was ſuppoſed, by giving a greater conſiſtence to the ſpirit, to enable it to ſuſtain more than it would be capable of doing by itſelf; at the ſame time that the acid improves the medicine by increaſing the roughneſs of the bark. This laſt tincture, and that made with rectified ſpirit, have their advantages; though for general uſe, thoſe above directed are the moſt convenient of any, the proof-ſpirit extracting nearly all the virtues of the bark. It may be given in doſes of from a tea-ſpoonful to half an ounce, or an ounce, according to the different purpoſes it is intended to anſwer.

TINCTURA CINCHONÆ, ſive CORTICIS PERUVIANI, COMPOSITA.

Lond.

Compound Tincture of Peruvian Bark.

Take of
- Peruvian bark, powdered, two ounces;
- Exterior peel of Seville oranges, dried, one ounce and an half;
- Virginian ſnake-root, bruiſed, three drachms;
- Saffron, one drachm;
- Cochineal, powdered, two ſcruples;
- Proof-ſpirit, twenty ounces.

Digeſt for fourteen days, and ſtrain.

This has been for a conſiderable time celebrated under the title of *Huxham's tincture of bark.*

The ſubſtances here joined to the bark, in ſome caſes, promote its efficacy in the cure of intermittents, and are ſometimes abſolutely neceſſary. In ſome ill habits, particularly where the viſcera and abdominal glands are obſtructed, the bark, by itſelf, proves unſucceſsful, if not injurious; while given in conjunction with ſtimulating ſtomachics and deobſtruents, it more rarely fails of the due effect. Orange peel and Virginian ſnake root are among the beſt additions for this purpoſe; to which it is thought by ſome neceſſary to join the chalybeate medicines alſo.

As a corroborant and ſtomachic, it is given in doſes of two or three drachms: but when employed for the cure of intermittents, it muſt be taken to a greater extent. For this purpoſe, however, it is rarely employed, unleſs with thoſe who are averſe to the uſe of the bark in ſubſtance, or whoſe ſtomachs will not retain it under that form.

TINCTURA CINCHONÆ, ſive CORTICIS PERUVIANI, AMMONIATA.

Lond.

Ammoniated Tincture of Peruvian Bark.

Take of
  Peruvian bark, powdered, four ounces;
  Compound ſpirit of ammonia, two pints.
Digeſt them in a cloſe veſſel for ten days, and ſtrain.

As proof ſpirit ſufficiently extracts the qualities of the bark, this compoſition ſeems unneceſſary.

TINCTURA CROCI.

Edin.

Tincture of Saffron.

Take of
  Engliſh ſaffron, one ounce;
  Proof ſpirit, fifteen ounces.
After digeſting them for five days, let the tincture be ſtrained through paper.

The proof ſpirit is a very proper menſtruum for extracting the medical virtues of the ſaffron, and affords a convenient mode of exhibiting that drug, the qualities of which were mentioned in the Materia Medica.

TINCTURA FERRI MURIATI.

Lond.

Tincture of muriated Iron.

Take of
  The ruſt of iron, half a pound;
  Muriatic acid, three pounds;
  Rectified ſpirit of wine, three pints.
Pour the muriatic acid on the ruſt of iron in a glaſs veſſel; and ſhake the mixture now and then during three days. Set it by that the feces may ſubſide; then pour off the liquor; evaporate this to one pint, and, when cold, add to it the vinous ſpirit.

TINCTURA FERRI, vulgo TINCTURA MARTIS.

Edinb.

Tincture of Iron.

Take of
  The ſcales of iron, purified and powdered, three ounces;
  Muriatic acid, as much as is ſufficient to diſſolve the powder.
Digeſt with a gentle heat; and the powder being diſſolved, add of rectified ſpirit of wine as much as will make up of the whole liquor two pounds and a half.

Of theſe two formulæ, that of the Edinburgh college is, in ſeveral reſpects, intitled to the preference. The ſcales are much fitter for giving a proper ſolution than the ruſt. The ſtrength of the muriatic acid is ſo variable, that the quantity is left to the judgement of the operater. If the acid be ſuperabundant, the ſolution is of a green colour; if it be fully ſaturated with the iron, it is more or leſs of a reddiſh or yellow colour; and this ſerves as a pretty accurate criterion. As the muriatic acid combines leſs intimately with rectified ſpirit than any of the foſſil acids, ſo the after-proceſs of dulcification ſcarcely, if at all, impairs the ſolvent power of the acid; though, when the dulcification happens to be more than uſually complete, a ſmall quantity of ferrugineous matter is ſometimes precipitated on adding rectified ſpirit to the ſolution. But as the rectified ſpirit increaſes the volatility of the acid, ſo if it was added at firſt, we ſhould loſe much more of the menſtruum by the heat employed during the digeſtion. When this tincture is well prepared, it is of a yellowiſh-red colour; if the acid be ſuperabundant, it is more or leſs of a greeniſh hue; and if the rectified ſpirit has been impregnated with the aſtringent matter of oak caſks, it aſſumes an inky colour.

All the tinctures of iron are no other than real ſolutions of the metal made in acids, and combined with vinous ſpirits. The tinctures here directed differ from each other only in ſtrength, the acid being the ſame in both. In our former pharmacopœias, there was a tincture from the matter which remains after the ſublimation of the martial flowers: which, though it appears to be a good one, is now expunged as ſuperfluous. Some have recommended dulcified ſpirit of nitre as a menſtruum; but though this readily diſſolves the metal, it does not keep it ſuſpended. The muriatic acid is the only one that can be employed for this purpoſe.

Theſe tinctures are greatly preferable to the calces or croci of iron, as being not only more ſpeedy, but likewiſe more certain in their operation. The latter, in ſome caſes, paſs off through the inteſtinal tube with little effect; while the tinctures ſcarce ever fail. From ten to twenty drops of either of the tinctures may be taken twice or thrice a day, in any proper vehicle.

TINCTURA FERRI AMMONIACALIS.

Lond.

Ammoniac tincture of Iron.

Take of
  Ammoniacal iron, four ounces;
  Proof-ſpirit, one pint.
Digeſt and ſtrain.

This is the old *tinctura florum martialium*, and is not near ſo elegant a preparation as the foregoing. Why it has been reſtored after having been omitted does not appear.

TINCTURA GALBANI.

Lond.

Tincture of Galbanum.

Take of
  Galbanum, cut into ſmall pieces, two ounces;
  Proof ſpirit, two pints.
Digeſt with a gentle heat for eight days, and ſtrain.

This tincture is now for the firſt time introduced by the London college, and may be uſefully employed for anſwering ſeveral purpoſes in medicine. Galbanum is one of the ſtrongeſt of the fetid gums; and although leſs active, yet much leſs diſagreeable than aſafetida: and under the form of tincture it may be ſucceſsfully employed in caſes of flatulence and hyſteria, where its effects are immediately required, particularly with thoſe who cannot bear aſafetida.

TINCTURA GENTIANÆ COMPOSITA.

Lond.

Compound tincture of Gentian.

Take of
Gentian root, ſliced and bruiſed, two ounces;
Exterior dried peel of Seville oranges, one ounce;
Leſſer cardamom ſeeds, huſked and bruiſed, half an ounce;
Proof-ſpirit, two pints.
Digeſt for eight days, and ſtrain.

TINCTURA AMARA, ſive GENTIANÆ COMPOSITA, vulgo ELIXIR STOMACHICUM.

Edin.

Bitter Tincture, or compound tincture of Gentian, commonly called *ſtomachic Elixir.*

Take of
Gentian root, two ounces;
Seville orange-peel, dried, one ounce;
Canella alba, half an ounce;
Cochineal, half a drachm;
Proof-ſpirit, two pounds and a half.
Macerate for four days, and ſtrain through paper.

These are very elegant ſpirituous bitters. As the preparations are deſigned for keeping, lemon peel, an excellent ingredient in the watery bitter infuſions, has, on account of the periſhableneſs of its flavour, no place in theſe. The aromatics are here very commodious ingredients, as in this ſpirituous menſtruum they are free from the inconvenience with which they are attended in other liquors, of rendering them untranſparent.

TINCTURA GUAIACI, vulgo ELIXIR GUAIACINUM.

Edin.

Tincture of Guaiacum, commonly called *Elixir of Guaiacum.*

Take of
Gum guaiacum, one pound;
Rectified ſpirit of wine, two pounds and a half.
Digeſt for ten days, and ſtrain.

This tincture may be conſidered as nearly agreeing in medical virtues with the two following. It is, however, leſs in uſe; but it may be employed with advantage in thoſe caſes where an objection occurs to the menſtruum uſed.

TINCTURA GUAIACI.

Lond.

Tincture of Guaiacum.

Take of
Gum guaiacum, four ounces;
Compound ſpirit of ammonia, a pint and a half.
Digeſt for three days, and ſtrain.

TINCTURA GUAIACI AMMONIATA, vulgo ELIXIR GUAIACINUM VOLATILE.

Edin.

Ammoniated tincture of Guaiacum, commonly called *Volatile Elixir of Guaiacum.*

Take of
Gum guaiacum, four ounces;
Diſtilled oil of ſaſſafras, half a drachm;
Spirit of ammonia, a pound and a half.

Macerate for ſix days in a cloſe veſſel, and ſtrain.

These are very elegant and efficacious tinctures; the volatile ſpirit excellently diſſolving the gum, and at the ſame time promoting its medicinal virtue. In rheumatic caſes, a tea, or even table, ſpoonful, taken every morning and evening in any convenient vehicle, particularly in milk, has proved of ſingular ſervice.

TINCTURA HELLEBORI NIGRI.
Lond.
Tincture of black Hellebore.

Take of
Black hellebore root, in coarſe powder, four ounces;
Cochineal, powdered, two ſcruples;
Proof-ſpirit, two pints.
Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA MELAMPODII, ſive HELLEBORI NIGRI.
Edin.
Tincture of Melampodium, or *black Hellebore.*

Take of
Black hellebore root, four ounces;
Cochineal, half a drachm;
Proof-ſpirit, two pounds and a half.
Digeſt for eight days, and filter the tincture through paper.

This is perhaps the beſt preparation of hellebore, when deſigned for an alterative, the menſtruum here employed extracting the whole of its virtues. It has been found, from experience, particularly ſerviceable in uterine obſtructions: in ſanguine conſtitutions, where chalybeates are hurtful, it ſeldom fails of exciting the menſtrual evacuations, and removing the ill conſequences of their ſuppreſſion. So great, according to ſome, is the power of this medicine, that wherever, from an ill conformation of the parts, or other cauſes, the expected diſcharge does not ſucceed on the uſe of it, the blood, as Dr Mead has obſerved, is ſo forcibly propelled, as to make its way through other paſſages. A tea ſpoonful of the tincture may be taken twice a day in warm water or any other convenient vehicle.

TINCTURA JALAPII.
Lond.
Tincture of Jalap.

Take of
Powdered jalap root, eight ounces;
Proof-ſpirit, two pints.
Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA JALAPPÆ.
Edin.
Tincture of Jalap.

Take of
Jalap, in coarſe powder, three ounces;
Proof-ſpirit, fifteen ounces.
Digeſt them for eight days, and ſtrain the tincture.

Rectified ſpirit of wine was formerly ordered for the preparation of this tincture; but rectified ſpirit diſſolving little more than the pure reſinous parts of the jalap, rendered the uſe of the medicine ſomewhat leſs commodious than that of the tincture prepared with proof ſpirits. Moſt of the tinctures made in rectified ſpirit, diluted with water, ſo as to be fit for taking, form a turbid white mixture. Many of them are ſafely taken in this form, without any further addition: but the cathartic ones are never to be ventured on without an admixture of ſyrup or mucilage to keep the reſin united with the liquor; for if it ſeparates in its pure undivided ſtate, it never fails to produce violent gripes.

Some have preferred to the tinctures of jalap, a ſolution in ſpirit of wine of a known quantity of the reſin extracted from the root; and obſerve that this ſolution is more certain in ſtrength than any tincture that can be drawn from the root directly. For, as the purgative virtue of jalap reſides in its reſin, and as all jalap appears from experiment not to be equally reſinous, ſome ſorts yielding five, and others not three, ounces of reſin from ſixteen, it follows, that although the root be always taken in the ſame proportion to the menſtruum, and the menſtruum always exactly of the ſame ſtrength, it may, nevertheleſs, according to the degree of goodneſs of the jalap, be impregnated with different quantities of reſin, and conſequently prove different in degree of efficacy. Though this objection againſt the tincture does not reach ſo far as ſome ſeem to ſuppoſe, it certainly behoves the apothecary to be careful in the choice of the root. The inferior ſorts may be employed for the making *reſina jalappæ*, which they yield in as great perfection, though not in ſo large quantity, as the beſt. Neumann thinks even the worm-eaten jalap as good for that purpoſe as any other.

TINCTURA KINO.

Edinb.

Tincture of Gum Kino.

Take of
  Gum kino. two ounces;
  Proof ſpirit, a pound and an half.
Digeſt eight days, and ſtrain.

The ſubſtance called *gum kino* ſeems to be really a gum-reſin; on which account proof ſpirit is its moſt proper menſtruum. This preparation muſt therefore poſſeſs the virtues of the ſubſtance; and it is one of the beſt forms under which it can be exhibited in obſtinate diarrhœas, and in caſes of lienteria: but in hemorrhagies, it is in general proper to exhibit it either in ſubſtance or diffuſed.

SPIRITUS LAVENDULÆ COMPOSITA.

Lond.

Compound Spirit of Lavender.

Take of
  Spirit of lavender, three pints;
  Spirit of roſemary, one pint;
  Cinnamon, bruiſed,
  Nutmegs, bruiſed, of each half an ounce;
  Red ſaunders, one ounce.
Digeſt for ten days, and ſtrain.

SPIRITUS LAVENDULÆ COMPOSITUS.

Lond.

Compound Spirit of Lavender.

Take of
  Simple ſpirit of lavender, three pounds;
  Simple ſpirit of roſemary, one pound;
  Cinnamon, one ounce;
  Cloves, two drachms;

Nutmeg, half an ounce;
Red ſaunders, three drachms.
Macerate ſeven days, and ſtrain.

These two compoſitions although varying a little from each other, may be conſidered as the ſame.

Theſe ſpirits are grateful reviving cordials: though conſiderably more ſimple, they are not leſs elegant or valuable, than many other more elaborate preparations; which have been long held in great eſteem, under the name of Palsy drops, in all kinds of languors, weakneſs of the nerves, and decays of age.

TINCTURA MOSCHI.

Edin.

Tincture of Muſk.

Take of
Muſk, two drachms;
Rectified ſpirit of wine, one pound.
Digeſt for ten days, and ſtrain.

Rectified ſpirit is the moſt complete menſtruum for muſk; but in this form it is often impoſſible to give ſuch a quantity of the muſk as is neceſſary for our purpoſe; and hence this article is more frequently employed under the form of julep or bolus.

TINCTURA MYRRHÆ.

Lond.

Tincture of Myrrh.

Take of
Myrrh, bruiſed, three ounces;
Proof-ſpirit, a pint and an half;
Rectified ſpirit of wine, half a pint.
Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA MYRRHÆ.

Edin.

Tincture of Myrrh.

Take of
Myrrh, three ounces;
Proof ſpirit, two pounds and a half.
After digeſtion for ten days, ſtrain off the tincture.

The pharmaceutical writers in general have been of opinion, that no good tincture can be drawn from myrrh by ſpirit of wine alone, without the aſſiſtance of fixed alkaline ſalts. But it appears from proper experiments, that theſe ſalts only heighten the colour of the tincture, without enabling the menſtruum to diſſolve any more than it would by itſelf. Rectified ſpirit extracts, without any addition, all that part of the myrrh in which its peculiar ſmell and taſte reſide, viz. the reſin: and proof-ſpirit diſſolves almoſt the whole of the drug, except its impurities: hence the combination of theſe two, directed by the London college, is perhaps preferable to either by itſelf.

Tincture of myrrh is recommended internally for warming the habit, ſtrengthening the ſolids, opening obſtructions, and reſiſting putrefaction. The doſe is from fifteen drops to forty or more. The medicine may doubtleſs be given in theſe caſes to advantage; though with us, it is more commonly uſed externally, for cleanſing foul ulcers, and promoting the exfoliation of carious bones.

TINCTURA OPII.
Lond.
Tincture of Opium.

Take of
- Hard purified opium, powdered, ten drachms;
- Proof-ſpirit, one pint.

Digeſt for ten days, and ſtrain.

TINCTURA OPII, ſive THEBAICA; vulgo LAUDANUM LIQUIDUM.
Edin.
Tincture of Opium, or *Thebaic tincture*, commonly called *Liquid Laudanum.*

Take of
- Opium, two ounces;
- Proof-ſpirit, two pounds.

Digeſt four days, and ſtrain off the tincture.

These are very elegant liquid opiates, and as they are now directed by both the pharmacopœias, they are of the ſame ſtrength, or contain the ſame proportion, of opium; a drachm of each tincture containing, as is found by evaporating the tincture, three grains and an half of pure opium. Objections had formerly been made to theſe liquid opiates which contain ſo large a proportion of opium, as the doſe of them was very uncertain in the uſual manner of giving it by drops, drops being ſometimes (as when dropt from a phial with a thick lip) much larger than at others. To remedy this inconvenience the Edinburgh college have adopted meaſures for proportioning the doſes by weight. See page 57.

TINCTURA OPII CAMPHORATA.
Lond.
Camphorated Tincture of Opium.

Take of
- Hard purified opium,
- Flowers of benzoin, of each one drachm;
- Camphor, two ſcruples;
- Oil of aniſeed, one drachm;
- Proof-ſpirit, two pints.

Digeſt for ten days, and ſtrain.

TINCTURA OPII AMMONIATA, vulgo ELIXIR PAREGORICUM.
Edin.
Ammoniated Tincture of Opium, commonly called *Paregoric Elixir.*

Take of
- Acid of benzoin,
- Engliſh ſaffron, of each three drachms;
- Opium, two drachms;
- Diſtilled oil of aniſeeds, half a drachm;
- Spirit of ammonia, ſixteen ounces.

Digeſt four days in a cloſe veſſel, and ſtrain.

These two preparations, though they differ in their compoſition, are nevertheleſs nearly of the ſame medical qualities.

The moſt material differences in the laſt formula from the firſt, are the ſubſtitution of the ſpirit of ammonia for the proof ſpirit, and a larger proportion of opium; the ſpirit of ammonia is not only, perhaps, a more powerful menſtruum, but in moſt inſtances coincides with the virtues of the preparation; but as the opium is the ingredient on which we place the principal dependance, ſo its proportion is increaſed, in order that we may give it in ſuch a doſe as that the acrimony of the menſtruum ſhall not prove hurtful to the ſtomach.

The London formula is taken from Le Mort, with the omiſſion of three unneceſſary ingredients, honey, liquorice, and alkaline ſalt. It was originally called Elixir asthmaticum, which name it does not ill deſerve. It contributes to allay the tickling which provokes frequent coughing; and at the ſame time is ſuppoſed to open the breaſt, and give greater liberty of breathing; the opium procures a temporary relief from the ſymptoms; while the other ingredients tend to remove the cauſe, and prevent their return. It is given to children againſt the chincough, &c. in doſes of from five drops to twenty; to adults, from twenty to an hundred. In the London formula, half an ounce by meaſure contains about a grain of opium; but in the Edinburgh formula, the proportion of opium is larger.

TINCTURA RHABARBARI.

Lond.

Tincture of Rhubarb.

Take of

Rhubarb, ſliced, two ounces;

Leſſer cardamom ſeeds, bruiſed, half an ounce;

Saffron, two drachms;

Proof-ſpirit, two pints.

Digeſt for eight days, and ſtrain.

TINCTURA RHEI.

Edin.

Tincture of Rhubarb.

Take of

Rhubarb, three ounces;

Leſſer cardamom ſeeds, half an ounce;

Proof-ſpirit, two pounds and a half.

Digeſt for ſeven days, and ſtrain.

TINCTURA RHABARBARI COMPOSITA.

Lond.

Compound tincture of Rhubarb.

Take of

Rhubarb, ſliced, two ounces;

Ginger, powdered,

Saffron, each two drachms;

Liquorice-root, bruiſed, half an ounce;

Diſtilled water, one pint;

Proof-ſpirit, twelve ounces by meaſure.

Digeſt for fourteen days, and ſtrain.

TINCTURA RHEI AMARA.

Edin.

Bitter tincture of Rhubarb.

Take of

Rhubarb, two ounces;

Gentian-root, half an ounce;

Virginian ſnake-root one drachm;

Proof-ſpirit, two pounds and a half.

Digeſt for ſeven days, and ſtrain.

TINCTURA RHEI DULCIS.

Edin.

Sweet Tincture of Rhubarb.

It is made by adding to the ſtrained tincture of rhubarb, four ounces of ſugar-candy.

The laſt of theſe preparations is improved from the former editions. Two ounces of liquorice and one of raiſins are ſupplied by an increaſe of the ſugar-candy.

All the foregoing tinctures of rhubarb are deſigned as ſtomachics and corroborants, as well as purgatives: ſpirituous liquors excellently extract thoſe parts of the rhubarb in which the two firſt qualities reſide, and the additional ingredients conſiderably promote their efficacy. In weakneſs of the ſtomach, indigeſtion, laxity of the inteſtines, diarrhœas, colic and other ſimilar complaints, theſe medicines are frequently of great ſervice: the fourth is alſo in many caſes, an uſeful addition to the Peruvian bark, in the cure of intermittents, particularly in cachectic habits, where the viſcera are obſtructed; with theſe intentions, a ſpoonful or two may be taken for a doſe, and occaſionally repeated.

TINCTURA RHEI CUM ALOE; vulgo ELIXIR SACRUM.

Edin.

Tincture of Rhubarb with aloes, commonly called *Sacred Elixir*.

Take of
  Rhubarb, ten drachms;
  Socotorine aloes, ſix drachms;
  Leſſer cardamom-ſeeds, half an ounce;
  Proof ſpirit, two pounds and a half.
Digeſt for ſeven days, and ſtrain.

This preparation is very much employed as a warming cordial purge, and for the general purpoſes of aloetics; with which, however, it combines the medical properties of rhubarb.

TINCTURA SABINÆ COMPOSITA.

Lond.

Compound Tincture of Savin.

Take of
  Extract of ſavin, one ounce;
  Tincture of Caſtor, one pint;
  Tincture of myrrh, half a pint.
Digeſt till the extract of ſavin be diſſolved, and then ſtrain.

This preparation had a place in a late edition of our pharmacopœia, under the title of *Elixir myrrhæ compoſitum;* and is an improvement of one deſcribed in ſome former pharmacopœias under the name of Elixir uterinum. It is a medicine of great importance in uterine obſtructions, and, in hypochondriacal caſes; though, poſſibly, means might be contrived of ſuperadding more effectually the virtues of ſavin to a tincture of myrrh and caſtor. It may be given in doſes of from five drops to twenty or thirty, or more, in penny-royal water, or any other ſuitable vehicle.

TINCTURA SCILLÆ.

Lond.

Tincture of Squill.

Take of
  Squills, freſh dried, four ounces;
  Proof-ſpirit, two pints.
Digeſt for eight days, and pour off the liquor.

For extracting the virtues of ſquills, the menſtruum which has hitherto been almoſt ſolely employed is vinegar. There are, however, caſes in which ardent ſpirit may be more proper; and by the menſtruum here directed its virtues are fully extracted; hence it is with propriety that the London college have introduced this form, as well as the vinegar and oxymel; but, in general, the purpoſes to be anſwered by ſquills may be better obtained by employing it in ſubſtance than in any other form.

TINCTURA SENNÆ.

Lond.

Tincture of Senna.

Take of

- Senna, one pound;
- Caraway-ſeeds, bruiſed, one ounce and an half;
- Leſſer cardamom-ſeeds, bruiſed, half an ounce;
- Raiſins, ſtoned, ſixteen ounces;
- Proof-ſpirit, one gallon.

Digeſt for fourteen days, and ſtrain.

TINCTURA SENNÆ COMPOSITA, vulgo ELIXIR SALUTIS.

Edinb.

Compound tincture of Senna, commonly called *Elixir of health.*

Take of

- Senna leaves, two ounces;
- Jalap root, one ounce;
- Coriander ſeeds, half an ounce;
- Proof-ſpirit, three pounds and a half.

Digeſt for ſeven days, and to the ſtrained liquor add four ounces of ſugar-candy.

Both theſe tinctures are uſeful carminatives and cathartics, eſpecially to thoſe who have accuſtomed themſelves to the uſe of ſpirituous liquors; they oftentimes relieve flatulent complaints and colics, where the common cordials have little effect: the doſe is from one to two ounces. Several preparations of this kind have been offered to the public under the name of Daffy's elixir: the two here deſcribed are equal to any, and ſuperior to moſt of them. The laſt in particular is a very uſeful addition to the caſtor oil, in order to take off its mawkiſh taſte: and coinciding with the virtues of the oil, it is therefore much preferable to brandy, ſhrub, and ſuch like liquors, which are often found neceſſary to make the oil ſit on the ſtomach.

TINCTURA SERPENTARIÆ.

Lond.

Tincture of Snake-root.

Take of

- Virginian ſnake root, three ounces;
- Proof-ſpirit, two pints.

Digeſt for eight days, and ſtrain.

Edinb.

Take of

- Virginian ſnake root, two ounces;
- Cochineal, one drachm;
- Proof-ſpirit, two pounds and a half.

Digeſt for four days, and then ſtrain the tincture.

The tincture of ſnake-root was in a former pharmacopœia directed to be prepared with the *tinctura ſalis tartari,* which being now expunged, it was propoſed to the college to employ rectified ſpirit; but as the heat of this ſpirit prevents the medicine from being taken in ſo large a doſe as it might otherwiſe be, a weaker ſpirit was choſen. The tincture made in this menſtruum, which extracts the whole virtues of the root, may be taken to the quantity of a ſpoonful or more every five or ſix hours; and to this extent it often operates as an uſeful diaphoretic.

TINCTURA VALERIANÆ.

Lond.

Tincture of Valerian.

Take of
The root of wild valerian, in coarſe powder, four ounces;
Proof ſpirit, two pints.
Digeſt with a gentle heat for eight days, and ſtrain.

The valerian root ought to be reduced to a pretty fine powder, otherwiſe the ſpirit will not ſufficiently extract its virtues. The tincture proves of a deep colour, and conſiderably ſtrong of the valerian; though it has not been found to anſwer ſo well in the cure of epileptic diſorders as the root in ſubſtance, exhibited in the form of powder, or bolus. The doſe of the tincture is, from half a ſpoonful to a ſpoonful or more, twice or thrice a day.

TINCTURA VALERIANÆ AMMONIATA.

Lond.

Ammoniated Tincture of Valerian.

Take of
The root of wild valerian in coarſe powder, four ounces;
Compound ſpirit of ammonia, two pints.
Digeſt for eight days, and ſtrain.

TINCTURA VALERIANÆ AMMONIATA, vulgo TINCTURA VALERIANÆ VOLATILIS.

Edin.

Ammoniated Tincture of Valerian, commonly called *Volatile tincture of Valerian.*

Take of
Wild valerian root, two ounces;
Spirit of ammonia, one pound.
Macerate for ſix days in a cloſe veſſel, and ſtrain.

The menſtrua here employed are excellent, and at the ſame time conſiderably promote the virtues of the valerian, which in ſome caſes wants an aſſiſtance of this kind. The doſe may be a teaſpoonful or two.

TINCTURA VERATRI, ſive HELLEBORI ALBI.

Edinb.

Tincture of Veratrum, or *white Hellebore.*

Take of
White hellebore root, eight ounces;
Proof-ſpirit, two pounds and a half.
Digeſt them together for ten days, and filter through paper.

This tincture is ſometimes uſed for acuating cathartics, &c. and as an emetic in apoplectic and maniacal diſorders. It may likewiſe be ſo managed, as to prove a powerful alterative and deobſtruent, in caſes where milder remedies have little effect; but a great deal of caution is requiſite in its uſe: the doſe, at firſt, ought to be only a few drops; if conſiderable, it proves violently emetic or cathartic.

ACIDUM VITRIOLI AROMATICUM, vulgo ELIXIR VITRIOLI ACIDUM.

Edinb.

Aromatic acid of vitriol, commonly called *Acid Elixir of Vitriol.*

Take of
Rectified ſpirit of wine, two pounds;
Drop into it by little and little ſix

ounces of vitriolic acid; digeſt the mixture with a very gentle heat in a cloſe veſſel for three days, and then add of

Cinnamon, an ounce and a half;
Ginger, one ounce.

Digeſt again in a cloſe veſſel for ſix days, and then filter the tincture through paper in a glaſs funnel.

The intention in this proceſs is, to obtain a tincture of aromatic vegetables, in ſpirit of wine, combined with a conſiderable proportion of vitriolic acid. When the tincture is firſt drawn with vinous ſpirit, and the acid added afterwards, the acid precipitates great part of what the ſpirit had before taken up: and on the other hand, when the acid is mixed with the ſpirit immediately before the extraction, it prevents the diſſolution of all that it would have precipitated by the former way of treatment; by previouſly uniting the acid and the vinous ſpirit together by digeſtion, the inconvenience is ſomewhat leſſened.

This is a valuable medicine in weakneſs and relaxations of the ſtomach, and decays of conſtitution, particularly in thoſe which proceed from irregularities, which are accompanied with ſlow febrile ſymptoms, or which follow the ſuppreſſion of intermittents. It frequently ſucceeds after bitters and aromatics by themſelves had availed nothing; and indeed, great part of its virtues depend on the vitriolic acid; which, barely diluted with water, has in theſe caſes, where the ſtomach could bear the acidity, produced happy effects.

Fuller relates (in his *Medicina Gymnaſtica*) that he was recovered by Mynſicht's elixir, which was formerly the name of this compound, from an extreme decay of conſtitution, and continual retchings to vomit. It may be given in doſes of from ten to thirty or forty drops or more, according to the quantity of acid, twice or thrice a-day, at ſuch times as the ſtomach is moſt empty. It is very uſefully conjoined with the bark, both as covering its diſagreeable taſte and coinciding with its virtues.

SPIRITUS ÆTHERIS VITRIOLICI AROMATICUS, vulgo ELIXIR VITRIOLI DULCE.

Edinb.

Aromatic ſpirit of vitriolic ether, commonly called *Sweet Elixir of Vitriol.*

This is made of the ſame aromatics, and in the ſame manner as the tinctura aromatica; except that, in place of the vinous ſpirit, ſpirit of vitriolic ether is employed.

This is deſigned for perſons whoſe ſtomachs are too weak to bear the foregoing acid elixir; to the taſte, it is gratefully aromatic, without any perceptible acidity. The dulcified ſpirit of vitriol, here directed, occaſions little or no precipitation on adding it to the tincture.

A medicine of this kind was formerly in great eſteem under the title of *Vigani's volatile elixir of vitriol;* the compoſition of which was firſt communicated to the public in the *Pharmacopœia reformata.* It is prepared by digeſting ſome volatile ſpirits of vitriol upon a ſmall quantity of dried mint leaves till the liquor has acquired a fine green colour. If the ſpirit, as it frequently does, partakes too much of the acid, this colour will not ſucceed: in ſuch caſe, it ſhould be rectified by the addition of a little fixed alkaline ſalt.

TINCTURA ZINZIBERIS.
Lond.
Tincture of Ginger.

Take of
Ginger, powdered, two ounces;
Proof ſpirit, two pounds.
Digeſt in a gentle heat for eight days, and ſtrain.

This ſimple tincture of ginger is a warm cordial, and is rather intended as a uſeful addition, in the quantity of a drachm or two, to purging mixtures, than for being uſed alone.

TINCTURA COLOCYNTHIDIS.
Suec.
Tincture of Colocynth.

Take of
Colocynth, cut ſmall, and freed from the ſeeds, one ounce;
Aniſeed, one drachm;
Proof ſpirit, fourteen ounces.
Macerate for three days, and ſtrain through paper.

In this tincture we have the active purgative power of the colocynth. And although it be ſeldom uſed as a cathartic by itſelf, yet even in ſmall quantity it may be advantageouſly employed to briſken the operation of others.

TINCTURA QUASSIÆ.
Suec.
Tincture of Quaſſia.

Take of
Quaſſia, bruiſed, two ounces;
Proof ſpirit, two pounds and an half.
Digeſt for three days, and then ſtrain through paper.

By proof ſpirit the medical properties, as well as the ſenſible qualities of the quaſſia, are readily extracted; and under this form it may be advantageouſly employed for anſwering different purpoſes in medicine.

TINCTURA LACCÆ.
Suec.
Tincture of Lac.

Take of
Gum lac, powdered, one ounce;
Myrrh, three drachms;
Spirit of ſcurvy-graſs, a pint and an half.
Digeſt in a ſand heat for three days; after which, ſtrain off the tincture for uſe.

This tincture is principally employed for ſtrengthening the gums, and in bleedings and ſcorbutic exulcerations of them; it may be fitted for uſe with theſe intentions, by mixing it with honey of roſes, or the like. Some recommend it internally againſt ſcorbutic complaints, and as a corroborant in gleets, female weakneſſes, &c. Its warmth, pungency, and manifeſtly aſtringent bitteriſh taſte, point out its virtues in theſe caſes to be conſiderable, though common practice among us has not yet received it.

TINCTURA NUCIS VOMICÆ.

Roſs.

Tincture of Nux Vomica.

Take of

Nux vomica, an ounce and a half;

Proof-ſpirit, two pounds.

Digeſt for ſome days, and then ſtrain it.

The nux vomica, a very active vegetable, has of late, as we have already had occaſion to obſerve, been introduced into practice for the cure of intermittents and of contagious dyſentery. In theſe affections it may be employed under the form of tincture as well as in ſubſtance; and in this way it moſt readily admits of being combined with other articles, either as adjuvantia or corrigentia.

TINCTURA SUCCINI.

Suec.

Tincture of Amber.

Take of

Yellow amber, powdered, one ounce;

Vitriolic ether, four ounces.

Digeſt for three days in a veſſel accurately cloſed, frequently ſhaking the veſſel, and after this ſtrain through paper.

The tincture of amber was formerly prepared with rectified ſpirit of wine: but the menſtruum here directed gives a more complete ſolution, and forms a more elegant and active tincture. It poſſeſſes the whole virtues of the concrete; and although it has no place in our Pharmacopœia, yet it is a valuable preparation of amber. It has been recommended in a variety of affections, particularly thoſe of the nervous kind, as hyſterical and epileptic complaints. It may be taken in doſes of from a few drops to the extent of a tea-ſpoonful in a glaſs of wine or any ſimilar vehicle.

CHAP. XXIII.

MISTURÆ.

MIXTURES.

MISTURA CAMPHORATA.
Lond.
Camphorated Mixture.

Take of
- Camphor, one drachm;
- Rectified ſpirit of wine, a little;
- Double-refined ſugar, half an ounce;
- Boiling diſtilled water, one pint.

Rub the camphor firſt with the ſpirit of wine, then with the ſugar; laſtly, add the water by degrees, and ſtrain the mixture.

While camphor is often exhibited in a ſolid ſtate, it is frequently alſo advantageous to employ it as diffuſed in watery fluids; and with this intention the preſent formula is perhaps one of the moſt ſimple, the union being effected merely by the aid of a ſmall quantity of ſpirit of wine and a little ſugar. The form of emulſion in which the union is effected, by triturating the camphor with a few almonds, is much ſuperior to this; for the unctuous quality of the almonds ſerves in a conſiderable degree to cover the pungency of the camphor, without diminiſhing its activity, (See Emulsio Camphorata). Camphor, under the preſent form as well as that of emulſion, is very uſeful in fevers, taken to the extent of a table-ſpoonful every three or four hours. It is a curious quantity of ſpirit which the London college has ordered; more eſpecially ſince in a former edition the quantity of ſpirit was ſpecified, viz. ten drops.

MISTURA CRETACEA.
Lond.
Chalk Mixture.

Take of
- Prepared chalk, one ounce;
- Double-refined ſugar, ſix drachms;
- Gum Arabic, powdered, one ounce;
- Diſtilled water, two pints.

Mix them.

POTIO CRETACEA.
Edinb.
Chalk Potion.

Take of
- Prepared chalk, one ounce;
- Pureſt refined ſugar, half an ounce;

Mucilage of gum Arabic, two ounces.
Rub them together, and add by degrees,
Water, two pounds and an half;
Spirit of cinnamon, two ounces.

These two preparations agree pretty much both in their name and in their nature; but that of the Edinburgh college is moſt agreeable to the palate, from containing a proportion of cinnamon water, by which the diſagreeable taſte of the chalk is taken off.

In the former edition of the Edinburgh pharmacopœia, a preparation of this kind ſtood among the decoctions, and the chalk was directed to be boiled with the water and gum: by the preſent formula, the chalk is much more completely ſuſpended by the mucilage and ſugar; which laſt gives alſo to the mixture an agreeable taſte. It is proper to employ the fineſt ſugar, as the redundant acid in the coarſer kinds might form with the chalk a kind of earthy ſalt.

This is a very elegant form of exhibiting chalk, and is an uſeful remedy in diſeaſes ariſing from, or accompanied with, acidity in the primæ viæ. It is frequently employed in diarrhœa proceeding from that cauſe. The mucilage not only ſerves to keep the chalk uniformly diffuſed, but alſo improves its virtues by ſheathing the internal ſurface of the inteſtines. The doſe of this medicine requires no nicety. It may be taken to the extent of a pound or two in the courſe of a day.

MISTURA MOSCHATA.

Lond.

Muſk Mixture.

Take of
Muſk, two ſcruples;
Gum Arabic, powdered,
Double refined ſugar, of each one drachm;
Roſe-water, ſix ounces by meaſure.
Rub the muſk firſt with the ſugar, then with the gum, and add the roſe water by degrees.

This had formerly the name of *Julepum e moſcho*, and was intended as an improvement upon the *Hyſteric julep with muſk* of Bates. Orange-flower water is directed by that author; and indeed this more perfectly coincides with the muſk than roſe-water: but as the former is difficultly procurable in perfection, the latter is here preferred. The julep appears turbid at firſt; on ſtanding a little time, it depoſites a brown powder, and becomes clear, but at the ſame time loſes great part of its virtue. This inconvenience may be prevented by thoroughly grinding the muſk with gum Arabic before the addition of the water; by means of the gum, the whole ſubſtance of the muſk is made to remain ſuſpended in the water. Volatile ſpirits are in many caſes an uſeful addition to muſk, and likewiſe enable water to keep ſomewhat more of the muſk diſſolved than it would otherwiſe retain.

LAC AMYGDALÆ.

Lond.

Almond Milk.

Take of
Sweet almonds, one ounce and an half;

Double-refined ſugar, half an ounce;
Diſtilled water, two pints.

Beat the almonds with the ſugar; then, rubbing them together, add by degrees the water, and ſtrain the liquor.

EMULSIO COMMUNIS.
Edin.
Common Emulſion.

Take of
Sweet almonds, one ounce;
Common water, two pounds and a half.

Beat the blanched almonds in a ſtone mortar, and gradually pour on them the common water, working the whole well together; then ſtrain off the liquor.

EMULSIO ARABICA.
Edin.
Arabic Emulſion.

This is made in the ſame manner as the preceding; only adding, while beating the almonds,
Mucilage of gum arabic, two ounces.

All theſe may be conſidered as poſſeſſing nearly the ſame qualities. But of the three the laſt is the moſt powerful demulcent.

Great care ſhould be taken, that the almonds be not become rancid by keeping; which will not only render the emulſion extremely unpleaſant, a circumſtance of great conſequence in a medicine that requires to be taken in large quantities, but likewiſe give it injurious qualities.

Theſe liquors are principally uſed for diluting and obtunding acrimonious humours: particularly in heat of urine and ſtranguries ariſing either from a natural ſharpneſs of the juices, or from the operation of cantharides, and other irritating medicines: in theſe caſes, they are to be drank frequently, to the quantity of half a pint or more at a time.

Some have ordered emulſions to be boiled, with a view to deprive them of ſome imaginary crudity; but by this proceſs they quickly ceaſe to be emulſions, the oil ſeparating from the water, and floating diſtinctly on the ſurface. Acids and vinous ſpirits produce a like decompoſition. On ſtanding alſo for ſome days, without addition, the oily matter ſeparates and riſes to the top, not in a pure form, but like thick cream. Theſe experiments prove the compoſition of the emulſions made from the oily ſeeds of kernels, and at the ſame time point out ſome cautions to be attended to in their preparation and uſe.

EMULSIO CAMPHORATA.
Edin.
Camphorated Emulſion.

Take of
Camphor, one ſcruple;
Sweet almonds, blanched, ten;
Double-refined ſugar, one dram;
Water, ſix ounces.

This is to be made in the ſame manner as the common emulſion.

This is a much better preparation for exhibiting camphor in a liquid form than the *miſtura camphorata* above deſcribed, the almonds being an excellent medium not only for dividing the camphor, but for keeping it ſuſpended in the water.

LAC AMMONIACI.
Lond.
Ammoniacum Milk.

Take of
Ammoniacum, two drachms;
Diſtilled water, half a pint.
Rub the gum-reſin with the water, gradually poured on, until it becomes a milk.
In the ſame manner may be made a milk of aſafetida, and of the reſt of the gum-reſins.

The ammoniacum milk is uſed for promoting expectoration, in humoural aſthmas, and coughs. It may be given to the quantity of two ſpoonfuls twice a day.

The lac aſafetidæ is employed in ſpaſmodical, hyſterical, and other nervous affections; and it is alſo frequently uſed under the form of injection. It anſwers the ſame purpoſe as aſafetida in ſubſtance.

SPIRITUS ÆTHERIS VITRIOLICI COMPOSITUS.
Lond.
Compound Spirit of Vitriolic Ether.

Take of
Spirit of vitriolic ether, two pounds;
Oil of wine, three drachms.
Mix them.

THIS is ſuppoſed to be, if not preciſely the ſame, at leaſt very nearly, the celebrated *Liquor anodynus mineralis* of Hoffman. We learn from his own writings, that the liquor which he thus denominated, was formed of dulcified ſpirit of vitriol and the aromatic oil which ariſes after it; but he does not tell us in what proportions theſe were combined. It has been highly extolled as an anodyne and antiſpaſmodic medicine: and with theſe intentions it is frequently employed in practice.

SPIRITUS AMMONIÆ COMPOSITUS.
Lond.
Compound Spirit of Ammonia.

Take of
Spirit of ammonia, two pints;
Eſſential oil of lemon,
nutmeg, of each two drachms.
Mix them.

THIS differs almoſt only in name from the following.

SPIRITUS AMMONIÆ AROMATICUS, vulgo SPIRITUS SALINUS AROMATICUS.
Edin.
Aromatic Spirit of Ammonia, commonly called *Saline aromatic ſpirit.*

Take of
Spirit of ammonia, eight ounces;
Diſtilled oil of roſemary, one drachm and a half;
Diſtilled oil of lemon-peel, one drachm.
Mix them that the oils may be diſſolved.

BY the method here directed, the oils are as completely diſſolved as when diſtillation is employed.

Volatile ſalts, thus united with aromatics, are not only more agreeable in flavour, but likewiſe more acceptable to the ſtomach, and leſs acrimonious than in their pure ſtate. Both the foregoing compoſitions turn out excellent ones, provided the oils are good. The doſe is from five or ſix drops to ſixty or more.

SPIRITUS AMMONIÆ SUCCINATUS.

Lond.

Succinated Spirit of Ammonia.

Take of
- Alkohol, one ounce;
- Water of pure ammonia, four ounces, by meaſure;
- Rectified oil of amber, one ſcruple;
- Sope, ten grains.

Digeſt the ſope and oil of amber in the alkohol till they be diſſolved; then add the water of pure ammonia, and mix them by ſhaking.

THIS compoſition is extremely penetrating, and has been long in great eſteem, particularly for ſmelling to in lowneſſes and faintings, under the name of *Eau de luce*. It is not quite limpid, for the oil of amber diſſolves only imperfectly in the ſpirit: and if the volatile ſpirit be not exceedingly ſtrong, ſcarcely any of the oil will be imbibed.

The *Eau de luce* is not only uſed with the view of making an impreſſion on the noſe, but is taken internally in the ſame caſes. It has likewiſe of late been celebrated as a remedy for the bite of the rattle-ſnake, when uſed internally, and applied externally to the wounded part.

SPIRITUS CAMPHORATUS.

Lond.

Camphorated Spirit.

Take of
- Camphor, four ounces;
- Rectified ſpirit of wine, two pints;

Mix them, ſo that the camphor may be diſſolved.

SPIRITUS VINOSUS CAMPHORATUS.

Edinb.

Camphorated Spirit of Wine.

Take of
- Camphor, one ounce;
- Rectified ſpirit of wine, one pound.

Mix them together, that the camphor may be diſſolved.

It may alſo be made with a double, triple, &c. proportion of camphor.

THESE ſolutions of camphor are employed chiefly for external uſes, againſt rheumatic pains, paralytic numbneſſes, inflammations, for diſcuſſing tumors, preventing gangrenes, or reſtraining their progreſs. They are too pungent to be exhibited internally, even when diluted, nor does the dilution ſucceed well; for on the admixture of aqueous liquors, the camphor gradually ſeparates and runs together into little maſſes.

Hoffman, Rothen, and others, mention a camphorated ſpirit not ſubject to this inconvenience. It is prepared by grinding the camphor with ſomewhat more than an equal weight of fixed alkaline ſalt, then adding a proper quantity of proof-ſpirit, and drawing off one half of it by diſtillation. This ſpirit was propoſed to be received into our pharmacopœias, under the title of *Spiritus camphoræ tartariſatus*; but on trial, it did not anſwer expectation: ſome of the camphor riſes with the ſpirit in diſtillation, though but a ſmall quantity; whence, mixed with a large portion of water, it does not ſenſibly render it turbid; but in a proper quantity, it exhibits the ſame appearance as the more common camphorated ſpirit: it did not appear, that ſpirit diſtilled from camphor, with or without the alkaline ſalt, differed at all in this reſpect.

The moſt convenient method of uniting camphor with aqueous liquors, for internal uſe, ſeems to be by the mediation of almonds, or of mucilages; triturated with theſe, it readily mixes with water into the form of an emulſion, at the ſame time that its pungency is conſiderably abated. It may alſo be commodiouſly exhibited in the form of an oily draught, expreſſed oils totally diſſolving it.

OLEUM CAMPHORATUM.

Edin.

Camphorated Oil.

Take of
Freſh olive oil, two ounces;
Camphor, half an ounce.
Mix them ſo that the camphor may be diſſolved.

This is deſigned for external purpoſes, and is uſeful againſt burns, bruiſes, rheumatic pains, &c.

EMULSIO OLEOSA SIMPLEX.

Gen.

Simple oily Emulſion.

Take of
Almond oil, one ounce;
Syrup of marſh mallows, an ounce and a half;
Gum arabic, half an ounce;
Spring water, ſix ounces.
Mix, and make an emulſion according to art.

EMULSIO OLEOSA VOLATILIS.

Gen.

Volatile oily Emulſion.

Take of
Almond oil, an ounce and a half;
Syrup of marſh mallow, one ounce;
Gum arabic, half an ounce;
Volatile alkali, one drachm;
Spring water, ſeven ounces.
Mix them according to art.

Both theſe are elegant and convenient modes of exhibiting oil internally; and under theſe forms it is often advantageouſly employed in caſes of cough, hoarſeneſs, and ſimilar affections. By means of the alkali, a more intimate union of oil with water is obtained than can be had with the intermedium either of ſyrup or vegetable mucilage; and in ſome caſes, the alkali contributes both to anſwer the intention in view, and to prevent the oil from exciting ſickneſs: But in other inſtances, the pungency which it imparts is diſagreeable to the patient, and unfavourable to the diſeaſe. According to theſe circumſtances, therefore, where an oily mixture is to be employed, the practitioner will have recourſe either to the one or the other formula.

JULAPIUM ACIDUM.

Gen.

Acid Julep.

Take of
Weak vitriolic acid, three drachms;
Simple ſyrup, three ounces;
Spring water, two pounds.
Mix them.

In this ſtate, the vitriolic acid is ſufficiently diluted to be taken with eaſe in conſiderable doſes. And it may thus be advantageouſly employed in various affections; concerning which we have already had occaſion to make ſome remarks in the Materia Medica, and which are to be anſwered, either by its action on the ſtomach, or on the ſyſtem in general.

JULAPIUM ÆTHEREUM.

Gen.

Ether Julep

Take of
- Pure vitriolic ether, two ſcruples;
- Spring water, ſix ounces;
- Refined ſugar, half an ounce.

Mix them according to art.

Although it is in general proper that ether ſhould be diluted only when it is to be immediately uſed, yet it is ſometimes neceſſary that it ſhould be put into the hands of the patient in the ſtate in which it is to be taken. In ſuch inſtances the preſent formula is a very proper one; and the addition of a little ſugar tends both to cover the pungency of the ether in the mouth, and to retain it in a ſtate of mixture with the water.

JULAPIUM SUCCINATUM.

Gen.

Amber Julep.

Take of
- Tincture of amber, two drachms;
- Refined ſugar, half an ounce;
- Spring water, ſix ounces.

Mix them according to art.

Under this form, the tincture of amber is ſo far diluted and ſweetened, as to form an agreeable mixture; and in this manner it may often be advantageouſly employed for counteracting nervous affections, and anſwering thoſe other purpoſes for which we have already mentioned that this article is had recourſe to in practice.

MIXTURA SALINA.

Succ.

Saline Mixture, or Julep.

Take of
- Fixt vegetable alkali, three drachms;
- River water, half a pound.

To this lixivum add,
- Lemon juice, half a pound, or as much as is ſufficient to ſaturate the alkali;
- Syrup of black currants, one ounce.

This mixture is frequently preſcribed in febrile diſeaſes as a means of promoting a ſlight diſcharge by the ſurface: For where the ſkin is parched with great increaſed heat, it generally operates as a gentle diaphoretic. It often alſo promotes a diſcharge by urine, and is frequently employed to reſtrain vomiting. With theſe intentions it is in daily uſe among us, although it has no place in our pharmacopœias, from its being entirely an extemporaneous preſcription.

SOLUTIO MINERALIS ARSENICI.

Mineral Solution of Arſenic.

Take of
- White arſenic, reduced to a ſubtile powder,
- Fixed vegetable alkali, each ſixty-four grains;
- Diſtilled water, half a pint.

Put them into a florentine flaſk, and let this be placed in a ſand heat, ſo that the water may boil gently till the arſenic be completely diſſolved; then add to the ſolution when cold half an ounce of ſpirit of lavender, and as much diſtilled water as to make the ſolution amount to a pint.

For the introduction of this remedy we are indebted to Dr Fowler of Stafford. We have already had occaſion to mention it when treating of arſenic in the Materia Medica: and we then obſerved, that if it be not preciſely the ſame, it is at leaſt ſuppoſed to be very analogous to a remedy which has had a very extenſive ſale in ſome parts of England under the name of the *Taſteleſs ague drop;* and which has been employed with very great ſucceſs in the cure of obſtinate intermittents; but whether the preſent formula in any degree approaches to the taſteleſs ague drop or not, there can be no doubt, from the concurring teſtimony of many eminent practitioners, that it is equally ſucceſsful in combating intermittents. For this purpoſe it is given, according to the age and other circumſtances of the patient, in doſes of from two to twenty drops, once, twice, or oftener, in the courſe of the day: And its uſe has been found to be attended with remarkable ſucceſs, although with ſome patients even very ſmall doſes have been found to excite ſevere vomiting. Beſides diſtinctly marked intermittents, this ſolution has alſo been ſometimes ſucceſsful in obſtinate periodical headachs, and in cutaneous affections of the leprous kind, reſiſting every other mode of cure; and in every caſe where arſenic can be employed with ſafety or advantage internally, this preparation is preferable to any other.

CHAP. XXIV.

SYRUPI.

SYRUPS.

SYRUPS are ſaturated ſolutions of ſugar, made in water, or the watery or vinous infuſions, or in juices. They were formerly conſidered as medicines of much greater importance than they are thought to be at preſent. Syrups and diſtilled waters were for ſome ages uſed as the greateſt alteratives; inſomuch that the evacuation of any peccant humour was never attempted, till by a due courſe of theſe it had firſt been ſuppoſed to be regularly prepared for expulſion. Hence aroſe the exuberant collection of both, which we meet with in pharmacopœias. As multitudes of diſtilled waters have been compounded from materials unfit to give any virtue over the helm; ſo numbers of ſyrups have been prepared from ingredients, which in this form cannot be taken in ſufficient doſes to exert their virtues: for two thirds of a ſyrup conſiſt of ſugar, and greateſt part of the remaining third is an aqueous fluid.

Syrups are at preſent chiefly regarded as convenient vehicles for medicines of greater efficacy; and are uſed for ſweetening draughts and juleps, for reducing powders into boluſes, pills, or electuaries, and other ſimilar purpoſes. Some likewiſe may not improperly be conſidered as medicines themſelves; as thoſe of ſaffron, buckthorn berries, and ſome others.

To the chapter on ſyrups the London college, in their pharmacopœia, have premiſed the following general obſervations.

In the making of ſyrups, where we have not directed either the weight of the ſugar, or the manner in which it ſhould be diſſolved, this is to be the rule:

Take of
- Double refined ſugar, twenty-nine ounces;
- Any kind of liquor, one pint.

Diſſolve the ſugar in the liquor, in a water bath; then ſet it aſide for twenty-four hours; take off the ſcum, and pour off the ſyrup from the feces, if there be any.

The following are the general rules which have commonly been given with reſpect to preparation of ſyrups.

I.

All the rules laid down for making decoctions are likewiſe to be obſerved in the decoctions for ſyrups. Vegetables, both for decoctions and infuſions, ought to be dry, unleſs they are expreſsly ordered otherwiſe.

II.

In both the London and Edinburgh pharmacopœias, only the pureſt or double-refined ſugar is allowed.

In the ſyrups prepared by boiling, it has been cuſtomary to perform the clarification with whites of eggs after the ſugar had been diſſolved in the decoction of the vegetable. This method is apparently injurious to the preparation; ſince not only the impurities of the ſugar are thus diſcharged, but a conſiderable part likewiſe of the medicinal matter, which the water had before taken up from the ingredients, is ſeparated along with them. Nor indeed is the clarification and deſpumation of the ſugar, by itſelf, very adviſable; for its purification by this proceſs is not ſo perfect as might be expected: after it has undergone this proceſs, the refiners ſtill ſeparate from it a quantity of oily matter, which is diſagreeable to weak ſtomachs. It appears therefore moſt eligible to employ fine ſugar for all the ſyrups; even the purgative ones (which have been uſually made with coarſe ſugar, as ſomewhat coinciding with their intention) not excepted; for, as purgative medicines are in general ungrateful to the ſtomach, it is certainly improper to employ an addition which increaſes their offenſiveneſs.

III.

Where the weight of the ſugar is not expreſſed, twenty-nine ounces are to be taken in every pint of liquor. The ſugar is to be reduced into powder, and diſſolved in the liquor by the heat of a water bath, unleſs ordered otherwiſe.

Although in the formula of ſeveral of the ſyrups, a double weight of ſugar to that of the liquor is directed, yet leſs will generally be ſufficient. Firſt, therefore, diſſolve in the liquor an equal weight of ſugar; then gradually add ſome more in powder, till a little remains undiſſolved at the bottom, which is to be afterwards incorporated by ſetting the ſyrup in a water bath.

The quantity of ſugar ſhould be as much as the liquor is capable of keeping diſſolved in the cold: if there is more, part of it will ſeparate, and concrete into cryſtals, or candy; if leſs, the ſyrup will be ſubject to ferment, eſpecially in warm weather, and change into a vinous or ſour liquor. If in cryſtalliſing, only the ſuperfluous ſugar be ſeparated, it would be of no inconvenience; but when part of the ſugar has candied, the remaining ſyrup is found to have an under proportion, and is as ſubject to fermentation as if it had wanted ſugar at firſt.

IV.

Copper veſſels, unleſs they be well tinned, ſhould not be employed in the making of acid ſyrups, or ſuch as are compoſed of the juices of fruits.

The confectioners, who are the moſt dexterous people at theſe kinds of preparations, to avoid the expence of frequently new tinning their veſſels, rarely uſe any other than copper ones untinned, in the preparation even of the moſt acid ſyrups, as of oranges and lemons. Nevertheleſs, by taking due care, that their coppers be well ſcoured and perfectly clean, and that the ſyrup remain no longer in them than is abſolutely neceſſary, they avoid giving it any ill taſte or quality from the metal. This practice, however, is by no means to be recommended to the apothecary.

V.

The ſyrup, when made, is to be ſet by till next day; if any saccharine cruſt appears upon the ſurface, it is to be taken off.

SYRUPUS ACETI.

Edinb.

Syrup of Vinegar.

Take of
- Vinegar, two pounds and an half;
- Double refined ſugar, three pounds and an half.

Boil them till a ſyrup be formed.

This is to be conſidered as ſimple ſyrup merely acidulated, and is by no means unpleaſant. It is often employed in mucilaginous mixtures, and the like; and on account of its cheapneſs it is often preferred to ſyrup of lemons.

SYRUPUS ALTHÆÆ.

Lond.

Syrup of Marſhmallow.

Take of
- Freſh root of marſhmallow, bruiſed, one pound;
- Double-refined ſugar, four pounds;
- Diſtilled water, one gallon.

Boil the water with the marſhmallow root to one half, and preſs out the liquor when cold. Set it by twelve hours; and, after the feces have ſubſided, pour off the liquor. Add the ſugar, and boil it to the weight of ſix pounds.

Edin.

Take of
- Freſh marſhmallow roots, one pound;
- Water, ten pounds;
- Double-refined ſugar, four pounds.

Boil the water with the roots to the conſumption of one half, and ſtrain the liquor, ſtrongly expreſſing it. Suffer the ſtrained liquor to reſt till the feces have ſubſided; and when it is free from the dregs, add the ſugar; then boil ſo as to make a ſyrup.

The ſyrup of marſhmallow ſeems to have been a ſort of favourite among diſpenſatory writers, who have taken great pains to alter and amend it, but have been wonderfully tender in retrenching any of its articles. In theſe preſcriptions it is lopt of its ſuperfluities, without any injury to its virtues. It is chiefly uſed in nephritic caſes, for ſweetening emollient decoctions, and the like.

SYRUPUS CARYOPHYLII RUBRI.

Lond.

Syrup of Clove July flower.

Take of
- Freſh clove July-flowers, the heels being cut off, two pounds;
- Boiling diſtilled water, ſix pints.

Macerate the flowers for twelve hours in a glaſs veſſel; and, in the ſtrained liquor, diſſolve the double refined ſugar, that it may be made a ſyrup.

SYRUPUS CARYOPHYLLORUM RUBRORUM.
Edin.
Syrup of Clove July-flowers.

Take of
- Clove July-flowers, freſh gathered and freed from the heels, one pound;
- Double-refined ſugar, ſeven pounds and a quarter;
- Boiling water, four pounds.

Macerate the flowers in the water for a night; then to the ſtrained liquor add the ſugar previouſly powdered, and diſſolve it by a gentle heat, to make the whole into a ſyrup.

This ſyrup is of an agreeable flavour, and a fine red colour; and for theſe it is chiefly valued. Some have ſubſtituted for it one eaſily preparable at ſeaſons when flowers are not to be procured: an ounce of clove ſpice is infuſed for ſome days in twelve ounces of white wine, the liquor ſtrained, and, with the addition of twenty ounces of ſugar, is boiled to a proper conſiſtence; a little cochineal renders the colour of this ſyrup exactly ſimilar to that prepared from the clove July-flower; and its flavour is of the ſame kind, though not ſo pleaſant. The abuſe may be readily detected by adding to a little of the ſyrup ſome alkaline ſalt or ley; which will change the genuine ſyrup to a green colour; but in the counterfeit, it will make no ſuch alteration, only varying the ſhade of the red.

As the beauty of the colour is a principal quality in this ſyrup, no force in the way of expreſſion ſhould be uſed in ſeparating the liquor from the flowers.

SYRUPUS COLCHICI.
Edin.
Syrup of Colchicum.

Take of
- Colchicum root, freſh and ſucculent, cut into ſmall pieces, one ounce;
- Vinegar, ſixteen ounces;
- Double-refined ſugar, twenty-ſix ounces.

Macerate the root in the vinegar two days, now and then ſhaking the veſſel; then ſtrain it with a gentle preſſure. To the ſtrained liquor add the ſugar, and boil a little, ſo as to form a ſyrup.

This ſyrup ſeems to be the beſt preparation of the colchicum: great care is required to take up the root in the proper ſeaſon: and from errors of this kind we are to aſcribe the uncertainty in the effects of this medicine as found in the ſhops.

The ſyrup of colchicum is often ſucceſsfully employed as a diuretic, and may be taken in doſes of from a drachm or two to the extent of an ounce or more.

SYRUPUS CORTICIS AURANTII.

Lond.

Syrup of Orange-peel.

Take of
  Freſh outer-rind of Seville oranges, eight ounces;
  Boiling diſtilled water, five pints.
Macerate for twelve hours in a cloſe veſſel; and, in the ſtrained liquor, diſſolve double-refined ſugar to make a ſyrup.

Edin.

Take of
  Freſh outer rind of Seville orange-peel, ſix ounces;
  Boiling water, three pounds.
Infuſe them for a night in a cloſe veſſel; then ſtrain the liquor; let it ſtand to ſettle; and having poured it off clear from the ſediment, diſſolve in it four pounds and a quarter of double refined powdered ſugar, ſo as to make it into a ſyrup with a gentle heat.

In making this ſyrup, it is particularly neceſſary that the ſugar be previouſly powdered, and diſſolved in the infuſion with as gentle a heat as poſſible, to prevent the exhalation of the volatile parts of the peel. With theſe cautions, the ſyrup proves a very elegant and agreeable one, poſſeſſing great ſhare of the fine flavour of the orange peel.

SYRUPUS CROCI.

Lond.

Syrup of Saffron.

Take of
  Saffron, one ounce;
  Boiling diſtilled water, one pint.
Macerate the ſaffron, in the water, for twelve hours, in a cloſe veſſel; and diſſolve double-refined ſugar in the ſtrained liquor, that it may be made a ſyrup.

Saffron is very well fitted for making a ſyrup, as in this form a ſufficient doſe of it is contained in a reaſonable compaſs. This ſyrup is at preſent frequently preſcribed; it is a pleaſant cordial, and gives a fine colour to juleps.

SYRUPUS LIMONIS SUCCI.

Lond.

Syrup of Lemon-juice.

Take of
  Lemon-juice, ſtrained after the feces have ſubſided, two pints;
  Double-refined ſugar, fifty ounces.
Diſſolve the ſugar, that it may be made a ſyrup.

SYRUPUS SUCCI LIMONUM.

Edin.

Syrup of Lemon-juice.

Take of
  Juice of lemons, ſuffered to ſtand till the feces have ſubſided, and afterwards ſtrained, three parts.
  Double-refined ſugar, five parts.
Diſſolve the ſugar in the juice, ſo as to make a ſyrup.

SYRUPUS SUCCI FRUCTUS MORI.

Lond.

Syrup of Mulberry juice.

SYRUPUS SUCCI FRUCTUS RUBI IDÆI.

Lond.

Syrup of Raſpberry-juice.

SYRUPUS SUCCI FRUCTUS RIBIS NIGRI.

Lond.

Syrup of Black Currants.

Theſe three are directed by the London college to be prepared in the ſame manner as ſyrup of lemons.

All theſe are very pleaſant cooling ſyrups; and with this intention they are occaſionally uſed in draughts and juleps, for quenching thirſt, abating heat, &c. in bilious or inflammatory diſtempers. They are ſometimes likewiſe employed in gargariſms for inflammations of the mouth and tonſils.

SYRUPUS PAPAVERIS ALBI.

Lond.

Syrup of the White Poppy.

Take of
- The heads of white poppies, dried, three pounds and an half;
- Double refined ſugar, ſix pounds.
- Diſtilled water, eight gallons.

Slice and bruiſe the heads, then boil them in the water, to three gallons, in a water-bath ſaturated with ſea-ſalt, and preſs out the liquor. Reduce this by boiling to about four pints, and ſtrain it while hot, firſt through a ſieve, then through a thin woollen cloth, and ſet it aſide for twelve hours, that the feces may ſubſide. Boil the liquor, poured off from the feces, to three pints, and diſſolve the ſugar in it that it may be made a ſyrup.

SYRUPUS PAPAVERIS ALBI, vulgo SYRUPUS DIACODION.

Edin.

Syrup of white Poppies, commonly *called Diacodium.*

Take of
- White poppy heads, dried, and freed from the ſeeds, two pounds;
- Boiling water, thirty pounds;
- Double-refined ſugar, four pounds.

Macerate the bruiſed heads in the water for a night; next boil till only one-third part of the liquor remain; then ſtrain it by expreſſing it ſtrongly. Boil the ſtrained liquor to the conſumption of one half, and ſtrain again; laſtly, add the ſugar, and boil to a ſyrup.

This ſyrup, impregnated with the opiate matter of the poppy heads, is given to children in doſes of two or three drachms; to adults from half an ounce to an ounce and upwards, for eaſing pain, procuring reſt, and anſwering the other intentions of mild opiates. Particular care is requiſite in its preparation, that it may be always made, as nearly as poſſible, of the ſame ſtrength; and accordingly the colleges have been very minute in their deſcription of the proceſs.

SYRUPUS PAPAVERIS ERRATICI.

Lond.

Syrup of the Red Poppy.

Take of
- The freſh flowers of red poppy, four pounds;
- Boiling diſtilled water, four pints and an half.

Put the flowers, by degrees, into the boiling water, in a water-bath, conſtantly ſtirring them. After this, the veſſel being taken out of the bath, macerate for twelve hours: then preſs out the liquor, and ſet it apart, that the feces may ſubſide. Laſtly, make it into a ſyrup, with double refined ſugar.

The deſign of putting the flowers into boiling water in a water-bath is, that they may be a little ſcalded, ſo as to ſhrink enough to be all immerged in the water; without this artifice, they can ſcarcely be all got in: but they are to be no longer continued over the fire than till this effect is produced, leſt the liquor become too thick, and the ſyrup rendered ropy.

This ſyrup has been recommended in diſorders of the breaſt, coughs, ſpitting of blood, pleuriſies, and other diſeaſes, both as an emollient and as an opiate. It is one of the lighteſt of the opiate medicines; and in this reſpect ſo weak, that ſome have doubted of its having any anodyne quality. It might indeed be very ſafely ſuperſeded altogether; and accordingly it has now no place either in the Edinburgh pharmacopœia, or ſome of the beſt foreign ones, though ſtill retained by the London college.

SYRUPUS ROSÆ.

Lond.

Roſe Syrup.

Take of
- The dried leaves of the damaſk roſe, ſeven ounces;
- Double-refined ſugar, ſix pounds;
- Boiling diſtilled water, four pints.

Macerate the roſe leaves in water for twelve hours, and ſtrain. Evaporate the ſtrained liquor to two pints and an half, and add the ſugar, that it may be made a ſyrup.

SYRUPUS ROSARUM PALLIDARUM.

Edin.

Syrup of pale Roſes.

Take of
- Pale roſes, freſh gathered, one pound;
- Boiling water, four pounds;
- Double-refined ſugar, three pounds.

Macerate the roſes in the water for a night; then to the liquor ſtrained, and freed from the dregs, add the ſugar; and boil them into a ſyrup.

This ſyrup may likewiſe be made from the liquor remaining after the diſtillation of roſe water, depurated from its feces.

The liquor remaining after the diſtillation of roſes (provided the ſtill has been perfectly clean) is as proper for making this ſyrup as a freſh infuſion; for the diſtillation only collects thoſe volatile parts which are diſſipated in the air while the infuſion is boiling to its conſiſtence. This ſyrup is an agreeable and mild purgative for children, in the doſe of half a ſpoonful, or a ſpoonful. It likewiſe

wiſe proves gently laxative to adults; and with this intention may be of ſervice in coſtive habits. Its principal uſe is in ſolutive glyſters.

SYRUPUS ROSARUM RUBRARUM.

Edin.

Syrup of red Roſes.

Take of
Red roſes, dried, ſeven ounces;
Double refined ſugar, ſix pounds;
Boiling water, five pounds.
Infuſe the roſes in the water for a night, then boil them a little; ſtrain out the liquor, and adding to it the ſugar, boil them to the conſiſtence of a ſyrup.

THIS ſyrup is ſuppoſed to be mildly aſtringent: but is principally valued on account of its red colour. The London college have omitted it, having retained others at leaſt equal to it in that reſpect.

SYRUPUS SCILLITICUS.

Edin.

Syrup of Squills.

Take of
Vinegar of ſquills, two pounds;
Double-refined ſugar, three pounds and a half.
Make them into a ſyrup with a gentle heat.

THIS ſyrup was formerly prepared with ſome ſpices, intended to alleviate the offenſiveneſs of the ſquills; but while they had not this effect, they often counteracted the intention in view, and are therefore omitted. It is uſed chiefly in doſes of a ſpoonful or two, for promoting expectoration, which it does very powerfully.

SYRUPUS SIMPLEX, ſive COMMUNIS.

Edin.

Simple or common Syrup.

Take of
Double-refined ſugar, fifteen parts;
Water, eight parts.
Let the ſugar be diſſolved by a gentle heat.

THIS preparation is a plain liquid ſweet, void of flavour or colour; and is more convenient in extemporaneous preſcription than ſugar undiſſolved.

SYRUPUS SPINÆ CERVINÆ.

Lond.

Syrup of Buck-thorn.

Take of
The juice of ripe and freſh buck-thorn berries, one gallon;
Ginger, bruiſed, one ounce;
Pimento, powdered, one ounce and a half;
Double-refined ſugar, ſeven pounds.
Set by the juice for ſome days, that the feces may ſubſide, and ſtrain. Macerate the ginger and pimento in a pint of the ſtrained juice, for four hours, and ſtrain. Boil away the reſt of the juice to three pints; then add that part of the juice in which the ginger and pimento have been macerated; and, laſtly, the ſugar, that it may be made a ſyrup.

SYRUPUS RHAMNI CATHARTICI, vulgo e SPINA CERVINA.

Edin.

Syrup of Buck-thorn.

Take of
The juice of ripe buck-thorn berries,

ries, depurated, ſeven pounds and a half;
Double-refined ſugar, three pounds and a half;
Boil them to the conſiſtence of a ſyrup.

Both theſe preparations, in doſes of three or four ſpoonfuls, operate as briſk cathartics. The principal inconveniences attending them are, their being very unpleaſant, and their occaſioning a thirſt and dryneſs of the mouth and fauces, and ſometimes violent gripes: theſe effects may be prevented by drinking freely of water-gruel, or other warm liquids, during the operation. The ungratefulneſs of the buckthorn is endeavoured to be remedied in the firſt of the above preſcriptions, by the addition of aromatics, which, however, are ſcarcely ſufficient for that purpoſe.

SYRUPUS TOLUTANUS.
Lond.
Syrup of Tolu.

Take of
The balſam of Tolu, eight ounces;
Diſtilled water, three pints.
Boil for two hours Mix with the liquor, ſtrained after it is cold, the double refined ſugar, that it may be made a ſyrup.

SYRUPUS TOLUTANUS, vulgo SYRUPUS BALSAMICUS.
Edin.
Syrup of Tolu, commonly called *Balſamic Syrup.*

Take of
Simple ſyrup, juſt made, and warm from the fire, two pounds;
Tincture of Tolu, one ounce.
When the ſyrup has grown almoſt cold, ſtir into it the tincture, by little at a time, agitating them well together, till perfectly united.

This laſt method of making the balſamic ſyrup was dropt in one of the preceding editions of the Edinburgh pharmacopœia, on a complaint that the ſpirit ſpoiled the taſte of the ſyrup; which it did in a great degree when the tincture was drawn with malt-ſpirits, the nauſeous oil, which accompanies all the common malt-ſpirits, communicating that quality; and this was particularly the caſe when the ſpirituous part was evaporated from the ſyrup, as was directed in the former edition of the Edinburgh pharmacopœia. Particular care therefore ſhould be taken, that the ſpirit, employed for making the tincture, be perfectly clean, and well rectified from all ill flavour.

The intention of the contrivers of the two foregoing proceſſes ſeems to have been ſomewhat different. In the firſt, the more ſubtile and fragrant parts of the balſam are extracted from the groſſer reſinous matter, and alone retained in the ſyrup: the other ſyrup contains the whole ſubſtance of the balſam in larger quantity.

In ſome pharmacopœias, a ſyrup of this kind is prepared from a tincture of balſam of Peru, with roſe-water, and a proper quantity of ſugar.

SYRUPUS VIOLÆ.
Lond.
Syrup of Violets.

Take of
The freſh petals of the violet, two pounds;
Boiling diſtilled water, five pints.
Macerate for twenty four hours; afterwards ſtrain the liquor, without preſſing, through thin linen. Add double refined ſugar, that it may be made a ſyrup.

SYRUPUS VIOLARUM.
Edin.
Syrup of Violets.

Take of
Freſh violets, one pound;
Boiling water, four pounds;
Double-refined ſugar, ſeven pounds and a half.
Macerate the violets in the water for twenty-four hours in a glaſs or a glazed earthen veſſel, cloſe covered; then ſtrain without expreſſion, and to the ſtrained liquor add the ſugar, powdered, and make into a ſyrup.

This ſyrup is of a very agreeable flavour; and in the quantity of a ſpoonful or two proves to children gently laxative. It is apt to loſe, in keeping, the elegant blue colour, for which it is chiefly valued; and hence ſome have been induced to counterfeit it with materials whoſe colour is more permanent. This abuſe may be readily diſcovered, by adding to a little of the ſuſpected ſyrup any acid or alkaline liquor. If the ſyrup be genuine, the acid will change it red, and the alkali green; but if counterfeit, theſe changes will not happen. It is obvious, from this mutability of the colour of the violet, that the preſcriber would be deceived if he ſhould expect to give any blue tinge to acidulated or alkaliſed juleps or mixtures, by the addition of the blue ſyrup.

SYRUPUS ZINGIBERIS.
Lond.
Syrup of Ginger.

Take of
Ginger, bruiſed, four ounces;
Boiling diſtilled water, three pints.
Macerate for four hours, and ſtrain; then add double refined ſugar, and make into a ſyrup.

Edin.

Take of
Powdered ginger, three ounces;
Boiling water, four pounds;
Double-refined ſugar, ſeven pounds and a half.
Macerate the ginger in the water in a cloſe veſſel, for twenty-four hours; then to the liquor ſtrained, and freed from the feces, add the powdered ſugar, and make them into a ſyrup.

These are agreeable and moderately aromatic ſyrups, impregnated with the flavour and virtues of the ginger.

SYRUPUS ACIDUS.
Gen.
Acid Syrup.

Take of
Weak ſpirit of vitriol, two drachms;
Syrup of lemons, ſix ounces.
Mix them.

Where we wiſh to obtain a ſyrup, not only ſtrongly acidulated, but alſo powerfully aſtringent, this formula may be conſidered as well ſuited to anſwer the purpoſe.

SYRUPUS ALKALINUS.

Gen.

Alkaline Syrup.

Take of
- Salt of tartar three drachms ;
- Simple ſyrup, ſix ounces.

Mix them.

In this ſyrup we have in ſome degree the converſe of the preceding ; and it may be uſefully employed, either for the deſtruction of acid in the ſtomach, or for the formation of neutral or effervescent mixtures.

SYRUPUS ALLII.

Suec.

Syrup of Garlic.

Take of
- The freſh root of garlic, ſliced, one pound ;
- Boiling water, two pounds.

Macerate them in a cloſe veſſel for an hour ; add to the ſtrained liquor,
- Refined ſugar, two pounds.

Boil them to a ſyrup.

This ſyrup formerly held a place in our pharmacopœias, and was recommended for promoting expectoration, in caſes of chronic catarrh, and other affections of the breaſt : But as well as the *oxymel ex allio*, it is now baniſhed from them : and there can be little doubt that the ſame intentions may in general be anſwered by leſs diſagreeable medicines. Yet where we wiſh to employ garlic in a watery menſtruum, this formula is perhaps one of the beſt under which it can be exhibited.

SYRUPUS AMYGDALINUS.

Suec.

Syrup of Almonds.

Take of
- Sweet almonds, one pound ;
- Bitter almonds, two drachms.

Let the almonds be blanched and beat in a ſtone mortar, with a wooden peſtle ; then by degrees add barley water, two pounds ; ſtrain the liquor, and form it into a ſyrup, with as much double refined ſugar as may be neceſſary.

The agreeable flavour of the almonds, is in this formula communicated to a ſyrup, which may be advantageouſly employed to ſweeten mixtures, or to form a pleaſant drink when diffuſed in water ; and the flavour is not a little improved by the addition of the proportion of bitter almonds here directed.

SYRUPUS CINNAMOMI.

Roſs.

Syrup of Cinnamon.

Take of
- Cinnamon, bruiſed, five ounces ;
- Spirituous cinnamon water, two pounds.

Digeſt them in a cloſe glaſs veſſel for twenty-four hours ; then add to the ſtrained liquor double-refined ſugar, three pounds ; boil it to a ſyrup.

This ſyrup is ſtrongly impregnated with the cinnamon ; and where we wiſh to ſweeten any mixture, at the ſame time adding to it an agreeable aromatic, it is perhaps one of the beſt articles we can employ.

SYRUPUS EMETICUS.

Brun.

Emetic Syrup.

Take of

Glaſs of antimony, finely powdered, two drachms;

Rheniſh wine, twelve ounces.

Let them be digeſted for three days in a gentle heat, then ſtrain the liquor through paper, and mix with the ſtrained liquor thirty ounces of double-refined ſugar. Let it be formed into a ſyrup, and kept in a cloſe veſſel.

There can be no doubt of this ſyrup being ſtrongly impregnated with the emetic quality of the antimony; and it will at leaſt have ſo far the advantage of being very agreeable to the taſte, that it may be readily taken by children. But every good effect to be obtained from it may be had with more certainty, by adding to ſimple ſyrup any quantity that may be thought neceſſary of the *antimonium tartariſatum*, previouſly diſſolved in a ſmall proportion of water.

SYRUPUS HYDRARGYRI.

Suec.

Syrup of Quickſilver.

Take of

Purified quickſilver, one drachm;

Gum arabic, three drachms;

Roſe water, as much as ſufficient for reducing the gum to a mucus.

Let them be rubbed in a mortar, till the quickſilver totally diſappears; then by degrees mix with it ſimple ſyrup, four ounces.

In this we have a preparation ſimilar to the mercurial ſolution of Dr Plenck, formerly mentioned; and which, while it does not poſſeſs any other advantage than mere ſweetneſs of taſte, is liable to the objections formerly urged againſt that preparation.

CHAP. XXV.

MELLITA.

MEDICATED HONEYS.

THE more fixed parts of vegetables, diſſolved in watery liquors, may be thence transferred into honey, by mixing the honey with the watery decoction or juice of the plant, and boiling them together till the aqueous part has exhaled, and the honey remains of its original conſiſtence. Honey has not probably, however, any very peculiar advantage over ſugar; and it is liable to many inconveniencies which ſugar is free from: in particular, it is much more liable to run into fermentation, and in many conſtitutions produces gripes and often violent effects: The Edinburgh college have therefore rejected all the oxymels from their laſt edition of the pharmacopœia. And the number of preparations with honey in moſt of the foreign pharmacopœias is now greatly diminiſhed. Still, however, ſeveral are much employed by practitioners of eminence, and retained in the London pharmacopœia.

MEL ACETATUM.
Lond.
Acetated Honey.

Take of
Clarified honey, two pounds;
Diſtilled vinegar, one pound by weight.
Boil them in a glaſs veſſel with a gentle fire to the conſiſtency of a ſyrup.

This is the old *oxymel ſimplex* of former pharmacopœias, and was once in great repute as a cooling and attenuating medicine; it is ſcarcely uſed in modern practice, except in colds attended with coughs, and in ſore throats, for which, when diluted with ſome aromatic or aſtringent infuſion, as ſage tea, Roſe flower tea, &c. it makes uſeful gargles.

MEL ROSÆ.
Lond.
Honey of Roſes.

Take of
- Dried red-roſe buds, four ounces;
- Boiling diſtilled water, three pints;
- Clarified honey, five pounds.

Macerate the roſe leaves in the water for ſix hours; then mix the honey with the ſtrained liquor, and boil the mixture to the thickneſs of a ſyrup.

This preparation is not unfrequently uſed as a mild cooling detergent, particularly in gargariſms for ulcerations and inflammation of the mouth and tonſils. The roſe-buds here uſed ſhould be haſtily dried; the deſign of doing ſo is, that they may the better preſerve their aſtringency.

MEL SCILLÆ.
Lond.
Honey of Squills.

Take of
- Clarified honey, three pounds;
- Tincture of ſquills, two pints.

Boil them in a glaſs veſſel to the thickneſs of a ſyrup.

The honey will here be impregnated with all the active parts of the ſquills which the tincture before contained, and may be employed as an uſeful expectorant or diuretic.

OXYMEL ÆRUGINIS.
Lond.
Oxymel of Verdegris.

Take of
- Prepared verdegris, one ounce;
- Vinegar, ſeven ounces;
- Clarified honey, fourteen ounces.

Diſſolve the verdegris in the vinegar, and ſtrain it through linen; then add the honey, and boil the whole to a proper thickneſs.

This is an improvement of what was formerly known in our pharmacopœias under the title of *Mel Ægyptiacum*; which, however, was, as then prepared, very uncertain with reſpect to ſtrength. It is uſed only externally for cleanſing foul ulcers, and keeping down fungous fleſh. It is alſo often ſerviceable in venereal ulcerations of the mouth and tonſils; But there is ſome danger from its application to places from the ſituation of which it is apt to be ſwallowed; for even a ſmall quantity of verdegris paſſing into the ſtomach may be productive of diſtreſſing, if not deleterious, effects.

OXYMEL COLCHICI.
Lond.
Oxymel of Meadow Saffron.

Take of
- The freſh root of meadow-ſaffron, cut into thin ſlices, one ounce;
- Diſtilled vinegar, one pint;
- Clarified honey, two pounds.

Macerate the root of meadow-ſaffron, with the vinegar, in a glaſs veſſel, with a gentle heat, for forty-eight hours. Strain the liquor, preſſed out ſtrongly from the root, and add the honey. Laſtly, boil the mixture, frequently ſtirring it with a wooden ſpoon, to the thickneſs of a ſyrup.

This oxymel may be conſidered as very analogous to the ſyrupus colchici of which we have already made ſome obſervations. Under this form it was firſt introduced by Dr Stoerk: and although with certain conſtitutions the ſyrup is unqueſtionably preferable, yet it well deſerves a place in our pharmacopœias, as being an active medicine.

OXYMEL SCILLÆ.

Lond.

Oxymel of Squills.

Take of
  Clarified honey, three pounds;
  Vinegar of ſquills, two pints.
Boil them in a glaſs veſſel, with a ſlow fire, to the thickneſs of a ſyrup.

The honey was formerly employed for this preparation unclarified, and the ſcum, which in ſuch caſes ariſes in the boiling, taken off; by this means the impurities of the ſquills, with which the vinegar was impregnated, were alſo ſeparated. For this reaſon the college of London have now judiciouſly ordered the honey for all theſe kinds of preparations to be previouſly clarified by itſelf.

Oxymel of ſquills is an uſeful aperient, detergent, and expectorant, and of great ſervice in aſthmas, coughs, and other diſorders where thick phlegm abounds. It is given in doſes of two or three drachms, along with ſome aromatic water, as that of cinnamon, to prevent the great nauſea which it would otherwiſe be apt to excite. In large doſes, it proves emetic.

OXYMEL ex ALLIO.

Dan.

Oxymel of Garlic.

Take of
  Garlic, cut in ſlices, an ounce and a half;
  Caraway ſeeds,
  Sweet fennel ſeeds, each two drachms;
  Clarified honey, ten ounces;
  Vinegar, half a pint.
Boil the vinegar for a little time, with the ſeeds bruiſed, in a glazed earthen veſſel; then add the garlic, and cover the veſſel cloſe; when grown cold, preſs out the liquor, and diſſolve in it the honey by the heat of a water-bath.

This oxymel is recommended for promoting expectoration, and the fluid ſecretions in general. It is doubtleſs a medicine of conſiderable efficacy, though very unpleaſant, the flavour of the garlic prevailing, notwithſtanding the addition of the aromatic ſeeds.

CHAP. XXVI.

PULVERES.

POWDERS.

THIS form receives ſuch materials only as are capable of being ſufficiently dried to become pulveriſable, without the loſs of their virtue. There are many ſubſtances, however, of this kind, which cannot be conveniently taken in powder; bitter, acrid, fetid drugs are too diſagreeable; emollient and mucilaginous herbs and roots are too bulky; pure gums cohere, and become tenacious in the mouth; fixt alkaline ſalts liquefy on expoſition to the air; and volatile alkalies exhale. Many of the aromatics, too, ſuffer a great loſs of their odorous principle when kept in powder; as in that form they expoſe a much larger ſurface to the air.

The doſe of powders, in extemporaneous preſcription, is generally about half a drachm: it rarely exceeds a whole drachm; and is not often leſs than a ſcruple. Subſtances which produce powerful effects in ſmaller doſes are not truſted to this form, unleſs their bulk be increaſed by additions of leſs efficacy; thoſe which require to be given in larger ones are better fitted for other forms.

The uſual vehicle for taking the lighter powders, is any agreeable thin liquid. The ponderous powders, particularly thoſe prepared from metallic ſubſtances, require a more conſiſtent vehicle, as ſyrups; for from thin ones they ſoon ſubſide; reſinous ſubſtances likewiſe are moſt commodiouſly taken in thick liquors; in thin ones, they are apt to run into lumps, which are not eaſily again ſoluble.

General Rules for making Powders.

I.

Particular care ought to be taken that nothing corrupted, decayed, or impure, be mixed in the compoſition of powders: the ſtalks and corrupted parts of plants are to be ſeparated.

II.

The dry aromatics ought to be ſprinkled, during their pulveriſation, with a few drops of water.

III.

The moiſter aromatics may be dried with a very gentle heat, before they are committed to the mortar.

IV.

Gums, and ſuch other ſubſtances as are difficultly pulveriſable, ſhould be pounded along with drier ones, that they may paſs the ſieve together.

V.

No part ſhould be ſeparated for uſe, until the whole quantity put into the mortar has paſſed the ſieve, and the ſeveral ſiftings mixed together; for thoſe parts of the ſubject, which are firſt powdered, are different, in their degree of efficacy, from the reſt.

VI.

Powders of aromatics are to be prepared only in ſmall quantities at a time, and kept in glaſs veſſels very cloſely ſtopt.

If powders are long kept, and not carefully ſecured from the air, their virtue is in a great meaſure deſtroyed, although the parts in which it conſiſts ſhould not in other circumſtances prove volatile. Thus, though the virtues of ipecacuanha are ſo fixt as to remain entire even in extracts made with proper menſtrua, yet if the powdered root be long expoſed to the air, it loſes its emetic quality.

20 gr

PULVIS ALOES CUM CANELLA.

Lond.

Powder of aloes with Canella.

Take of
- Socotorine aloes, one pound;
- White canella, three ounces.

Powder them ſeparately, and then mix them.

This compoſition has long been known in the ſhops under the title of *Hiera picra*. It furniſhes us with an uſeful aloetic purgative, the canella operating as a good corrigent for the aloes. But it is more frequently employed as the baſis of electuaries, or pills, or of a tincture, which was for a long time diſtinguiſhed by the appellation of *Sacred tincture*.

PULVIS ALOES CUM FERRO.

10-20 gr

Lond.

Powder of aloes with Iron.

Take of
- Socotorine aloes, powdered, an ounce and a half;
- Myrrh, powdered, two ounces;
- Dry extract of gentian,
- Vitriolated iron, of each, in powder, one ounce.

Mix them.

In this powder we have an aloetic and chalybeate conjoined. It conſiſts of nearly the ſame articles which formerly entered the compoſition of the *Pilulæ ecphracticæ chalybeatæ*, as they were called; and it is perhaps more frequently employed when brought to the form of pills by means of ſyrups, than in powder: But in either way it is an uſeful medicine, and is particularly employed with advantage in caſes of obſtructed menſtruation.

PULVIS ALOES CUM GUAIACO.

10-20 gr

Lond.

Powder of aloes with Guaiacum.

Take of
- Socotorine aloes, one ounce and an half;
- Gum guaiacum, one ounce;
- Aromatic powder, half an ounce.

Powder the aloes and gum guaiacum ſeparately; then mix all the ingredients together.

In the guaiacum, as well as the aloes, we have a warm gummi-reſinous purgative; and both are corrected, as well as more minutely divided, from their combination with the aromatics. This therefore furniſhes us with an uſeful purgative: But when taken only in ſmall doſes, its chief effect is that of promoting perſpiration. It is, however, more frequently employed in the form of pills than in the ſtate of powder; and indeed it conſiſts of nearly the ſame ingredients which conſtituted the *Pilulæ aromaticæ*, of the former edition of the London pharmacopœia.

PULVIS AROMATICUS.

Lond. 5-10 gr

Aromatic Powder.

Take of
Cinnamom, two ounces;
Smaller cardamom ſeeds,
Ginger,
Long pepper, of each one ounce.
Powder them together.

PULVIS AROMATICUS, vulgo SPECIES AROMATICÆ.

Edinb.

Aromatic powder, commonly called *Aromatic Species.*

Take of
Cinnamon,
Leſſer cardamom ſeeds,
Ginger, of each two ounces.
Reduce them together into a powder, to be kept in a well ſtopt phial.

Both theſe compoſitions are agreeable, hot, ſpicy medicines; and as ſuch may be uſefully taken in cold phlegmatic habits and decayed conſtitutions, for warming the ſtomach, promoting digeſtion, and ſtrengthening the tone of the viſcera. The doſe is from ten grains to a ſcruple and upwards.

PULVIS ASARI COMPOSITUS.

5-6 gr

Lond.

Compound powder of Aſarabacca.

Take of
Dried leaves of aſarabacca,
ſweet marjoram,
Syrian herb maſtich,
Dried flowers of lavender, of each one ounce.
Powder them together.

PULVIS ASARI COMPOSITUS, vulgo PULVIS STERNUTATORIUS.

Edin.

Compound powder of aſarabacca, commonly called *Sternutatory.*

Take of
The leaves of aſarum, three parts;
Marjoram,
Lavender flowers, of each one part.
Powder them together.

Though the former of theſe powders be more compound than the latter, yet they differ very little. They are both agreeable and efficacious errhines, and ſuperior to moſt of thoſe uſually ſold under the name of *herb ſnuff.* They are often employed with great advantage in caſes of obſtinate headach, and of ophthalmias reſiſting other modes of cure. Taken under the form of ſnuff to the extent of five or ſix grains at bed-time, they will operate the ſucceeding day as a powerful errhine, inducing frequent ſneezing, and a large diſcharge from the noſe. It is, however, neceſſary, during their operation, to avoid expoſure to cold.

30 gr

PULVIS CERUSSÆ COMPOSITUS.

Lond.

Compound Powder of Ceruſſe.

Take of
- Ceruſſe, five ounces;
- Sarcocoll, an ounce and an half;
- Tragacanth, half an ounce.

Powder them together.

This compoſition is the *Trochiſci albi* of Rhazes brought back to its original ſimplicity with regard to the ingredients, and without the needleſs trouble of making it into troches. It is employed for external purpoſes, as in collyria, lotions, and injections for repelling acrimonious humours; and in inflammations.

30 gr

PULVIS CHELARUM CANCRI COMPOSITUS.

Lond.

Compound Powder of Crabs claws.

Take of
- Crabs claws, prepared, one pound;
- Chalk,
- Red coral, each, prepared, three ounces.

Mix them.

This powder has loſt ſeveral of its ingredients, without any injury to its virtues; and poſſibly it would ſtill bear a farther reduction; for the crabs eyes and chalk are by themſelves at leaſt as effectual as any compoſition of them with coral.

PULVIS CONTRAYERVÆ COMPOSITUS.

15·30

Lond.

Compound Powder of Contrayerva.

Take of
- Contrayerva, powdered, five ounces;
- Compound powder of crabs-claws, one pound and an half.

Mix them.

This powder was formerly directed to be made up into balls with water, and was then called *Lapis contrayervæ*; a piece of trouble now laid aſide as needleſs, for it was neceſſary to reduce the balls into powder again before they could be uſed. Nor did that form contribute, as has been imagined, to their preſervation; for it is ſcarcely to be ſuppoſed that the powder will loſe more by being kept for a reaſonable length of time in a cloſe ſtopt glaſs, than the balls will from humectation with water, and exſiccation in the air, before they are fit for being put by to keep. This medicine has a very good claim to the title of an alexipharmac and ſudorific. The contrayerva by itſelf proves very ſerviceable in low fevers, where the vis vitæ is weak, and a diaphoreſis to be promoted. It is poſſible, that the crabs-claws are of no farther ſervice than as they divide this powerful ingredient, and make it ſit more eaſily on the ſtomach.

PULVIS CRETÆ COMPOSITUS. 15-30 gr
Lond.
Compound Powder of Chalk.

Take of
Prepared chalk, half a pound;
Cinnamon, four ounces;
Tormentil,
Gum arabic, of each, three ounces;
Long pepper, half an ounce.
Powder them ſeparately, and mix them.

PULVIS CRETACEUS.
Edinb.
Chalk Powder.

Take of
White chalk prepared, four ounces;
Nutmeg, half a drachm;
Cinnamon, one drachm and an half.
Powder them together.

The addition of the aromatics in the above formulæ, coincides with the general intention of the remedy, which is indicated for weakneſs and acidity in the ſtomach; and for looſeneſs from acidity.

PULVIS CRETÆ COMPOSITUS CUM OPIO.
Lond. 1-2 ∋
Compound Powder of Chalk with Opium.

Take of
Compound powder of chalk, eight ounces;
Hard purified opium, powdered, one drachm and an half.
Mix them.

From the addition of the opium this remedy becomes ſtill more powerful than the above in reſtraining diarrhœa.

PULVIS IPECACUANHÆ COMPOSITUS. 10-15 gr
Lond.
Compound Powder of Ipecacuanha.

Take of
Ipecacuanha,
Hard purified opium, of each, powdered, one drachm;
Vitriolated kali, powdered, one ounce.
Mix them.

PULVIS IPECACUANHÆ COMPOSITUS, vulgo PULVIS DOVERI.
Edin.
Compound Powder of Ipecacuanha, commonly called *Dovers powder.*

Take of
Ipecacuanha,
Purified opium, each one drachm;
Vitriolated lixive, one ounce.
Mix, and grind them accurately together, ſo as to make an uniform powder.

The vitriolated lixive, from the grittineſs of its cryſtals, is perhaps better fitted for tearing and dividing the tenacious opium than any other ſalt; this ſeems to be its only uſe in the preparation. The operator ought to be careful that the opium and ipecacuanha be equally diffuſed through the whole maſs of powder, otherwiſe different portions of the powder muſt have differences in degree of ſtrength. The hard purified opium, directed by the London college, is, from this circumſtance, preferable to opium in its ordinary ſtate, employed by the Edinburgh college.

This powder is one of the moſt certain ſudorifics, and as ſuch, was recommended by Dr Dover as an effectual remedy in rheumatiſm. Modern practice confirms its reputation, not only in rheumatiſm, but alſo in dropſy and ſundry other diſeaſes, where it is often difficult by other means to produce a copious ſweat. The doſe is from five to ten or twelve grains, according as the patient's ſtomach and ſtrength can bear it. It is convenient to avoid much drinking immediately after taking it, otherwiſe it is very apt to be rejected by vomiting before any other effects are produced.

PULVIS JALAPPÆ COMPOSITUS.

Edinb.

Compound Powder of Jalap.

Take of
- Jalap root, one ounce;
- Cryſtals of tartar, two ounces.

Mix, and diligently grind them together for ſome time, ſo as to form a very fine powder.

The uſe of the cryſtals in this preparation is to break down and divide the jalap into very minute particles, whereby its operation is thought to be meliorated; and on this account the two articles are directed to be pounded together, and not ſeparately. This powder is a uſeful and active purgative, in every caſe where it is neceſſary to produce both a full evacuation of the inteſtinal canal, and a free diſcharge from the ſyſtem in general.

PULVIS MYRRHÆ COMPOSITUS. 10-30 gr

Lond.

Compound Powder of Myrrh.

Take of
- Myrrh,
- Dried ſavin,
- Rue,
- Ruſſian caſtor, of each, an ounce.

Powder them together.

This is a reformation of the *Trochiſci e myrrha*, a compoſition contrived by Rhazes againſt uterine obſtructions. From a ſcruple to a drachm of it may be taken in any convenient vehicle, or made into boluſes, twice or thrice a day.

PULVIS OPIATUS. 5-20 gr

Lond.

Opiate Powder.

Take of
- Hard purified opium, powdered, one drachm;
- Burnt and prepared hartſhorn, nine drachms.

Mix them.

The hartſhorn is here intended merely to divide the opium, and to reduce it to the form of powder, which on ſome occaſions is preferable to its being given either in a liquid form or in that of pills. As ten grains of this powder contain preciſely one of the opium, the requiſite doſe may be eaſily adapted to the circumſtances of the caſe. It is often ſucceſsfully employed as a ſweating powder; and has not, like the Pulvis Doveri, the effect of inducing ſickneſs or vomiting.

PULVIS SCAMMONII COMPOSITUS. 10-20gr

Lond.

Compound Powder of Scammony.

Take of
- Scammony,
- Hard extract of jalap, of each two ounces;
- Ginger, half an ounce.

Powder them ſeparately, and mix them.

Edin.

Take of
- Scammony,
- Cryſtals of tartar, of each two ounces;

Mix, and grind them diligently into a powder.

It is much to be regretted, that in the pharmacopœias publiſhed by authority in Britain, two compoſitions ſhould be diſtinguiſhed by the ſame name, differing conſiderably from each other in their nature and degree of activity.

The compound powder of ſcammony in the former edition of the London pharmacopœias differed conſiderably from the preſent: For there, the only addition was calcined hartſhorn, intended merely for the diviſion of the ſcammony. This purpoſe is ſtill better anſwered by the cryſtals of tartar, which at the ſame time conſpire with the operation of the ſcammony as a purgative. But the addition of jalap and ginger, according to the preſent formula of the London pharmacopœia, gives not only a purgative conſiderably different, but alſo increaſes the heating quality of the medicine, while the cream of tartar has an evident refrigerant power. Both may occaſionally be uſeful, but in moſt caſes the Edinburgh formula will be found preferable.

In editions of our pharmacopœias of ſtill older date, this powder was prepared with another very active ingredient, diaphoretic antimony. It was much celebrated, and was diſtinguiſhed by the name of its inventor, being called from its firſt publiſher, *Pulvis Cornachini.* In a former edition of the Edinburgh pharmacopœia it was thus directed to be prepared:

Take of
- Diaphoretic antimony,
- Cream of tartar,
- Scammony, each equal parts.

Make them into a powder.

This may be given to the quantity of a drachm or more. In other preſcriptions, the tartar and antimonial calx bear nearly the ſame proportion to the ſcammony as the calcined hartſhorn did in the London pharmacopœia. It appears probable, that neither of theſe ingredients are of any farther uſe, than as they divide the texture of the ſcammony: though Cornachini ſuppoſes very conſiderable advantage from ſome deobſtruent quality in the tartar, whereby the veſſels ſhall be opened, and the noxious humours prepared for expulſion; and from the preparation of antimony, though it have no ſenſible operation, he expects ſome ſhare of the ſame ſucceſs which ſometimes attends the rougher preparations of that mineral.

20gr

PULVIS SCAMMONII COMPOSITUS CUM ALOE.

Lond.

Compound Powder of Scammony with Aloes.

Take of
Scammony, ſix drachms;
Hard extract of jalap,
Socotorine aloes, of each an ounce and an half;
Ginger, half an ounce.
Powder them ſeparately, and mix them.

In this formula, the combination of ſcammony, jalap, and aloes, furniſhes a very active purgative, which, with ſome intentions at leaſt, may be preferable to either of the preceding. From five to ten grains of it operate as a purgative even in caſes of obſtinate coſtiveneſs.

gr

PULVIS SCAMMONII CUM CALOMELANE.

Lond.

Powder of Scammony with Calomel.

Take of
Scammony, half an ounce;
Calomel,
Double refined ſugar, of each two drachms.
Powder them ſeparately, and then mix them.

In this formula, we have the ſcammony in a more ſimple ſtate, united with ſuch a proportion of calomel as muſt very conſiderably aid its purgative power; and accordingly it may be employed with advantage, both in caſes of obſtinate coſtiveneſs, and in droptical affections, where a conſiderable diſcharge is required from the ſyſtem.

PULVIS SENNÆ COMPOSITUS.

20-30

Lond.

Compound Powder of Senna.

Take of
Senna,
Cryſtals of tartar, of each two ounces;
Scammony, half an ounce;
Ginger, two drachms.
Powder the ſcammony by itſelf, and the reſt together, then mix them all.

This powder is given as a cathartic, in the doſe of two ſcruples, or a drachm. The ſpice is added, not only to divide, but to warm the medicine, and make it ſit eaſier on the ſtomach. The ſcammony is uſed as a ſtimulus to the ſenna; the quantity of the latter neceſſary for a doſe, when not aſſiſted by ſome more powerful material, being too bulky to be conveniently taken in this form.

PULVIS ALUMINIS COMPOSITUS, vulgo PULVIS STYPTICUS.

Edinb.

Compound Powder of Alum, commonly called *Styptic Powder.*

Take of
Alum, an ounce and a half;
Gum kino, three drachms.
Powder them together.

In former editions of our pharmacopœia, a powder of this kind was directed to be made with alum and dragon's blood, and was long in repute as an aſtringent, under the title of *Pulvis ſtypticus Helvetii.* The gum kino is judiciouſly ſubſtituted for the dragon's blood, as being a much more powerful and certain aſtringent. The chief uſe of this powder is in hæmorrhagies, eſpecially of the uterus.

PULVIS TRAGACANTHÆ COMPOSITUS. 20-30
Lond.
Compound Powder of Tragacanth.

Take of
- Tragacanth, powdered,
- Gum Arabic,
- Starch, of each an ounce and a half;
- Double refined ſugar, three ounces.

Powder them together.

This compoſition is ſomewhat ſimplified by the rejection of the marſh-mallow, and liquorice root, which formerly entered it: But this has not probably produced any diminution of its medical properties. It operates as a mild emollient; and hence becomes ſerviceable in hectic caſes, tickling coughs, ſtrangury, ſome kinds of alvine fluxes, and other diſorders proceeding from acrimony in the inteſtines. The doſe is from half a drachm to two or three drachms, which may be frequently repeated.

PULVIS ANTHELMINTICUS. 15-30gr
Gen.
Anthelmintic Powder.

Take of
- Worm-ſeed,
- Flowers of tanſy, each three drachms;
- Sal martis, one drachm.

Mix them.

Both the tanſy and worm ſeed poſſeſs a conſiderable degree of anthelmintic power, which is not a little increaſed by the ſalt of ſteel. And from this combination more effect in the expulſion of worms, particularly of the lumbrici, may be expected, than from any of the articles taken by themſelves This powder may be given to the extent of half a drachm or upwards for a doſe, proportioned to the age and circumſtances of the patient.

PULVIS DIGESTIVUS.
Suec.
Digeſtive Powder.

Take of
- Bitter purging ſalts,
- Rhubarb, each equal parts.

Mix them.

In this compoſition, the ſalt will briſken the operation of the rhubarb as a cathartic, and the aſtringency of the latter will tend to increaſe the tone of the ſtomach: hence, in conſequence of evacuating, and at the ſame time ſtrengthening the alimentary canal, it may be preſumed to have conſiderable influence in promoting digeſtion.

PULVIS DYSENTERICUS.
Dan.
Dyſenteric Powder.

Take of
- Rhubarb, one ounce;
- Calcined hartſhorn, half an ounce;
- Gum arabic, three drachms;
- Caſcarilla bark, two drachms.

Mix them, and reduce them to a very fine powder.

Here the rhubarb is combined with another powerful tonic, the caſcarilla; and while the calcined hartſhorn ſerves to neutraliſe acid, the gum arabic will operate as a demulcent. This compoſition therefore may be very uſeful in dyſenteric caſes, after the violence of the diſeaſe has been overcome, and when there remains a debilitated and abraded ſtate of the inteſtinal canal.

PULVIS FUMALIS.

Roſſ.

Fumigation Powder.

Take of
Olibanum,
Amber,
Maſtich, each three parts;
Storax, two parts;
Benzoine,
Labdanum, each one part.
Mix them into a groſs powder.

This powder is intended for the purpoſe of fumigation; and when burnt it gives out a fragrant odour: hence it may be ſucceſsfully employed for combating diſagreeable ſmells, and counteracting putrid or other noxious vapours diffuſed in the atmoſphere.

PULVIS INFANTUM.

Suec.

Powder for Infants.

Take of
Magneſia alba, one ounce;
Rhubarb, reduced to a very fine powder, one drachm.
Let them be mixed.

This powder is very uſeful for deſtroying acid, and at the ſame time reſtoring the diminiſhed tone of the alimentary canal: hence it is often advantageouſly employed in caſes of diarrhœa, which depend on theſe morbid conditions; and it is in general a circumſtance of conſiderable advantage, that it does not tend to check looſeneſs very ſuddenly. It is particularly uſeful with infants, and hence the origin of the name here affixed to it.

PULVIS NITROSUS.

Suec.

Nitrous Powder.

Take of
Purified nitre, three ounces;
Salt of ſorrel, one ounce;
Double refined ſugar, ten ounces.
Let them be mixed.

This is a very convenient and agreeable form of exhibiting nitre: for while the ſugar ſerves not only to divide and diffuſe it, but alſo to correct its taſte, the ſalt of ſorrel adds to its refrigerant power.

PULVIS THEBAICUS.

Suec.

Thebaic Powder.

Take of
Opium, half a ſcruple;
Purified nitre, five ſcruples and a half;
Refined ſugar, one ounce.
Mix them together into a powder.

In this powder thoſe inconveniencies which ſometimes reſult from opium are corrected, in conſequence of the refrigerant power of nitre; and hence it may prove a very uſeful ſedative powder. The ſugar is intended merely to give form to the medicine. Each drachm of it contains a grain of opium; ſo that a practitioner has it in his power eaſily to regulate the doſe according to circumſtances.

CHAP.

CHAP. XXVII.

TROCHISCI.

TROCHES.

TROCHES and lozenges are compoſed of powders made up with glutinous ſubſtances into little cakes, and afterwards dried. This form is principally uſed for the more commodious exhibition of certain medicines, by fitting them to diſſolve ſlowly in the mouth, ſo as to paſs by degrees into the ſtomach; and hence theſe preparations have generally a conſiderable proportion of ſugar or other materials grateful to the palate. Some powders have likewiſe been reduced into troches, with a view to their preparation; though poſſibly for no very good reaſons: for the moiſtening, and afterwards drying them in the air, muſt on this account be of greater injury, than any advantage accruing from this form can counterbalance.

General RULES *for making* TROCHES.

I.

THE three firſt rules laid down for making powders, are alſo to be obſerved in the powders for troches.

II.

If the maſs proves ſo glutinous as to ſtick to the fingers in making up, the hands may be anointed with any convenient ſweet or aromatic oil; or elſe ſprinkled with powder of ſtarch, or of liquorice, or with flour.

III.

In order to thoroughly dry the troches, put them on an inverted ſieve, in a ſhady airy place, and frequently turn them.

IV.

Troches are to be kept in glaſs veſſels, or in earthen ones well glazed.

TROCHISCI AMYLI.

Lond.

Troches of Starch.

Take of
Starch, an ounce and an half;
Liquorice, ſix drachms;
Florentine orris, half an ounce;
Double-refined ſugar, one pound and a half.

Powder them, and by means of mucilage of gum tragacanth, make troches.

They may be made, if ſo choſen, without the orris.

TROCHISCI ARABICI, vulgo TROCHISCI BECHICI ALBI.

Edinb.

Arabic Troches, commonly called *White pectoral Troches.*

Take of

Double-refined ſugar, one pound;

Gum Arabic, four ounces;

Starch, one ounce.

Powder them, and make them into a proper maſs with roſe-water, ſo as to form troches.

These compoſitions are very agreeable pectorals, and may be uſed at pleaſure. They are calculated for allaying the tickling in the throat which provokes coughing.

Although the compoſition in the London and Edinburgh pharmacopœias be ſomewhat different, yet their effects are very much the ſame.

TROCHISCI GLYCYRRHIZÆ.

Lond.

Troches of Liquorice.

Take of

Extract of liquorice,

Double-refined ſugar, of each ten ounces;

Tragacanth, powdered, three ounces

Make troches by adding water.

TROCHISCI GLYCYRRHIZÆ, vulgo TROCHISCI BECHICI NIGRI.

Edin.

Liquorice Troches, commonly called *Black pectoral Troches.*

Take of

Extract of liquorice,

Gum arabic, each four ounces;

Double-refined ſugar, eight ounces.

Diſſolve them in warm water, and ſtrain; then evaporate the mixture over a gentle fire to a proper confiſtence for forming troches.

These compoſitions are deſigned for the ſame purpoſes as the white pectoral troches above deſcribed. The diſſolving and ſtraining the extract of liquorice and gum arabic, as now ordered in the laſt of the above preſcriptions, is a conſiderable improvement; not only as they are by that means more uniformly mixed than they can well be by beating; but likewiſe as they are thereby purified from the heterogeneous matters, of which both thoſe drugs have commonly no ſmall admixture.

TROCHISCI GLYCYRRHIZÆ CUM OPIO, vulgo TROCHISCI BECHICI CUM OPIO.

Edin.

Liquorice Troches with Opium, commonly called *Pectoral Troches with Opium.*

Take of

Pure opium, two drachms;

Tincture of Tolu, half an ounce.

Grind the opium with the tincture, till it be thoroughly diſſolved, then add by degrees, of,

Common ſyrup, eight ounces;
Extract of liquorice, ſoftened in warm water, five ounces.
While beating them diligently, gradually ſprinkle upon the mixture five ounces of powdered gum arabic. Dry them ſo as to form troches, each weighing ten grains.

These directions for preparing the above troches are ſo full and particular, that no farther explanation is neceſſary. Six of the troches prepared in the manner here ordered, contain about one grain of opium. Theſe troches are medicines of approved efficacy in tickling coughs depending on an irritation of the fauces. Beſides the mechanical effect of the inviſcating matters in involving acrid humours, or lining and defending the tender membranes, the opium, muſt, no doubt, have a conſiderable ſhare, by more immediately diminiſhing the irritability of the parts themſelves.

TROCHISCI NITRI.

Lond.

Troches of Nitre.

Take of
Purified nitre, powdered, four ounces;
Double-refined ſugar, powdered, one pound;
Tragacanth, powdered, ſix drachms.
With the addition of water, make troches.

TROCHISCI NITRI.

Edinb.

Troches of Nitre.

Take of
Nitre, purified, three ounces;
Double-refined ſugar, nine ounces.
Make them into troches with mucilage of gum tragacanth.

This is a very agreeable form for the exhibition of nitre; though, when the ſalt is thus taken without any liquid (if the quantity be conſiderable), it is apt to occaſion uneaſineſs about the ſtomach, which can only be prevented by large dilution with aqueous liquors. The *trochiſci e nitro* have been ſaid to be employed with ſucceſs in ſome caſes of difficult deglutition.

TROCHISCI SULPHURIS.

Lond.

Troches of Sulphur.

Take of
Waſhed flowers of ſulphur, two ounces;
Double refined ſugar, four ounces.
Rub them together; and, with the mucilage of quince-ſeeds, now and then added, make troches.

This compoſition is to be conſidered only as an agreeable form for the exhibition of ſulphur, no alteration or addition being here made to its virtues.

TROCHISCI CRETÆ.

Lond.

Troches of Chalk.

Take of
Chalk, prepared, four ounces;
Crabs-claws, prepared, two ounces;
Cinnamon, half an ounce;
Double-refined ſugar, three ounces.
Powder them, and add mucilage of gum Arabic, and make troches.

Edin.

Take of
Prepared chalk, four ounces ;
Gum arabic, one ounce ;
Nutmegs, one drachm ;
Double-refined ſugar, ſix ounces.
Powder them, and make them into troches by the addition of water.

TROCHISCI e MAGNESIA.

Lond.

Troches of Magneſia.

Take of
Burnt magneſia, four ounces ;
Double-refined ſugar, two ounces ;
Ginger, powdered, one ſcruple.
With the addition of mucilage of gum Arabic make troches.

These compoſitions are calculated againſt the *heartburn* ; in which they often give immediate relief, by abſorbing and neutraliſing the acid juices that occaſion this diſorder. The two former have in general the effect of binding, the latter of opening, the belly ; and from this circumſtance the practitioner will be determined in his choice, according to the nature of the caſe.

TROCHISCI CATECHU.

Brun.

Troches of Catechu.

Take of
Catechu, one ounce ;
White ſugar candy, two ounces ;
Ambergris,
Muſk, each ten grains ;
Mucilage of gum tragacanth, as much as is ſufficient.
Make them into troches.

This medicine has long been in eſteem as a ſlight reſtringent ; and reſtringents thus gradually received into the ſtomach produce better effects than when an equal quantity is taken down at once. Theſe troches would be more palatable, and perhaps not leſs ſerviceable, were the muſk and ambergris omitted.

CHAP. XXVIII.

PILULÆ.

PILLS.

TO this form are peculiarly adapted thoſe drugs which operate in a ſmall doſe, and whoſe nauſeous and offenſive taſte or ſmell require them to be concealed from the palate.

Pills diſſolve the moſt difficultly in the ſtomach, and produce the moſt gradual and laſting effects, of all the internal forms. This is, in ſome caſes, of great advantage; in others, it is a quality not at all deſirable; and ſometimes may even be of dangerous conſequence, particularly with regard to emetics; which if they paſs the ſtomach undiſſolved, and afterwards exert themſelves in the inteſtines, operate there as violent cathartics.

Gummy reſins, and inſpiſſated juices, are ſometimes ſoft enough to be made into pills, without addition: where any moiſture is requiſite, ſpirit of wine is more proper than ſyrups or conſerves, as it unites more readily with them, and does not ſenſibly increaſe their bulk. Light dry powders require ſyrup or mucilages; and the more ponderous, as the mercurial and other metallic preparations, thick honey, conſerve, or extracts.

Light powders require about half their weight of ſyrup; of honey, about three-fourths their weight; to reduce them into a due conſiſtence for forming pills. A drachm of the maſs will make about fifteen pills of a moderate ſize.

General RULES *for making* PILLS.

I.

Gums and inſpiſſated juices, are to be firſt ſoftened with the liquid preſcribed: then add the powders, and continue beating them throughly all together, till they be perfectly mixed.

II.

The maſſes for pills are beſt kept in bladders, which ſhould be moiſtened now and then with ſome of the ſame kind of liquid that the maſs was made up with, or with ſome proper aromatic oil.

PILULÆ ALOES COMPOSITÆ.

Lond.

Compound Pills of Aloes.

Take of
- Socotorine aloes, powdered, one ounce;
- Extract of gentian, half an ounce;
- Oil of caraway ſeeds, two ſcruples;
- Syrup of ginger, as much as is ſufficient.

Beat them together.

PILULÆ ALOETICÆ.

Edinb.

Aloetic Pills.

Take of
- Socotorine aloes, in powder,
- Thick extract of gentian, each two ounces;

Make them into a maſs with ſimple ſyrup.

These pills were formerly directed to be made with Caſtile ſope; from a notion which Boerhaave and ſome others were very fond of, that ſope promoted the ſolution of reſinous and ſeveral other ſubſtances in the ſtomach. This, however, ſeems to be a miſtake; and, on the contrary, it is highly probable, that the alkaline part of the ſope is in moſt inſtances ſeparated from the oily by the acid in the ſtomach; by which decompoſition the ſope retards inſtead of promoting the ſolution of the aloes. Theſe pills have been much uſed as laxatives: they are very well ſuited for the coſtiveneſs ſo often attendant on people of ſedentary lives. Like other preparations of aloes, they are alſo uſed in jaundice, and in certain caſes of obſtructed menſes. They are ſeldom uſed for producing full purging; but if this be required, a ſcruple or half a drachm of the maſs may be made into pills of a moderate ſize for one doſe.

PILULÆ ALOES CUM MYRRHA.

Lond.

Pills of Aloes with Myrrh.

Take of
- Socotorine aloes, two ounces;
- Myrrh,
- Saffron, of each one ounce;
- Syrup of ſaffron, as much as is ſufficient.

Powder the aloes and myrrh ſeparately; and afterwards beat all the ingredients together into a maſs.

PILULÆ ALOES CUM MYRRHA, vulgo PILULÆ RUFI.

Edin.

Pills of Aloes with myrrh, commonly called *Rufus's Pills.*

Take of
- Socotorine aloes, two ounces;
- Myrrh, one ounce;
- Saffron half an ounce.

Beat them into a maſs with a proper quantity of ſyrup.

These pills have long continued in practice, without any other alteration than in the ſyrup with which the maſs is made up, and in the proportion of ſaffron. In our laſt Pharmacopœia, the ſyrup of wormwood was ordered, which is here judiciouſly exchanged by the London College for that of ſaffron; this preſerving and improving the brightneſs of colour in the medicine, which is the characteriſtic of its goodneſs. The ſaffron, in the compoſition which is attributed to Rufus, is equal in quantity to the myrrh; and in theſe proportions the pill was received in our firſt Pharmacopœia. As the diminution afterwards made in the ſaffron was grounded on very abſurd reaſons, viz. "leſt the "former quantity ſhould occaſion a ſpaſmus cynicus,") the London College have now again increaſed it, and reſtored the pill to its original form. The virtues of this medicine may be eaſily underſtood from its ingredients. Thoſe pills, given to the quantity of half a drachm or two ſcruples, prove conſiderably cathartic, but they anſwer much better purpoſes in ſmaller doſes as laxatives or alteratives.

PILULÆ ALOES CUM COLOCYNTHIDE, vulgo PILULÆ COCCIÆ.

Edin.

Pills of aloes with Colocynth, commonly called *Pilulæ Cocciæ*.

Take of
- Socotorine aloes,
- Scammony, of each two ounces;
- Sulphureous vitriolated lixive, two drachms;
- Colocynth, one ounce;
- Oil of cloves, two drachms.

Reduce the aloes and ſcammony into a powder, with the ſalt; then let the colocynth, beat into a very fine powder, and the oil, be added; laſtly, make it into a proper maſs with mucilage of gum Arabic.

In theſe pills we have a very uſeful and active purgative; and where the ſimple aloetic pill is not ſufficient for obviating coſtiveneſs this will often effectually anſwer the purpoſe. Little of their activity can depend upon the ſalt which enters the compoſition; but it may aſſiſt in dividing the other articles, particularly the aloes and ſcammony. Theſe pills often produce a copious diſcharge in caſes of obſtinate coſtiveneſs, when taken to the extent only of five or ten grains; but they may be employed in much larger doſes. They are, however, ſeldom uſed with the view of producing proper catharſis. Half a drachm of the maſs contains about five grains of the colocynth, ten of the aloes, and ten of the ſcammony.

PILULÆ CUPRI.

Edin.

Copper Pills.

Take of
- Cuprum ammoniacum, ſixteen grains;
- Bread crumb, four ſcruples;

Water of ammonia, as much as is ſufficient to form them into a maſs, which is to be divided into thirty-two equal pills.

These pills had formerly the name of *Pilulæ cæruleæ*, but they are now with greater propriety denominated from the metal which is their baſis.

Each of theſe pills weighs about three grains, and contain ſomewhat more than half a grain of the cuprum ammoniacum. They ſeem to be the beſt form of exhibiting this medicine; for the effects of which, ſee Cuprum ammoniacum.

PILULÆ GALBANI COMPOSITÆ.
Lond.
Compound Pills of Galbanum.

Take of
Galbanum,
Opopanax,
Myrrh,
Sagapenum, of each one ounce;
Aſafetida, half an ounce;
Syrup of ſaffron, as much as is ſufficient.
Beat them together.

PILULÆ ASAFÆTIDÆ COMPOSITÆ, vulgo PILULÆ GUMMOSÆ.
Edinb.
Compound pills of aſafetida, commonly called *Gum pills*.

Take of
Aſafetida,
Galbanum,
Myrrh, each one ounce;
Rectified oil of amber, one drachm.
Beat them into a maſs with ſimple ſyrup.

PILULÆ FŒTIDÆ.
Suec.
Fœtid Pills.

Take of
Aſafetida,
Caſtor, each a drachm and a half;
Salt of amber, half a drachm;
Oil of hartſhorn, half a ſcruple.
Make them into a maſs, with tincture of myrrh, to be divided into pills of two grains each.

These pills are deſigned for antihyſterics and emmenagogues, and are very well calculated for anſwering thoſe intentions; half a ſcruple, a ſcruple, or more, may be taken every night or oftener. The fetid pills of our former pharmacopœia were conſiderably purgative; the purgative ingredients are now omitted, as the phyſician may eaſily, in extemporaneous preſcription, compound theſe pills with cathartic medicines, in ſuch proportions as particular caſes ſhall require.

PILULÆ HYDRARGYRI.
Lond.
Quickſilver pills.

Take of
Purified quickſilver, two drachms;
Conſerve of roſes, three drachms;
Liquorice, finely powdered, one drachm.
Rub the quickſilver with the conſerve until the globules diſappear; then, adding the liquorice powder, mix them together.

PILULÆ HYDRARGYRI, vulgo PILULÆ MERCURIALES
Edin.
Quickſilver pills, commonly called *Mercurial pills*.

Take of
Quickſilver,
Manna, each one ounce;
Powdered liquorice, two ounces.
Grind the quickſilver with the manna in a glaſs mortar till the globules diſappear, adding occaſionally a little mucilage of gum arabic; then add the powdered liquorice, and beat the whole with water into a maſs, which is to be immediately divided into four hundred and eighty equal pills.

The quickſilver was formerly directed to be ground with reſin of guaiacum and Caſtile ſope. The former was ſuppoſed to coincide with the virtues of the mercury, and the latter was uſed chiefly to divide the globules of mercury. For this laſt intention Doctor Saunders uſed honey: but the ſubſtance here ordered by the Edinburgh college, is the moſt effectual. It is probable that ſomething farther is done in this proceſs than the mere diviſion of the mercurial globules, and that part of the quickſilver is as it were amalgamated with the manna. The ſame effect will take place when the pills are prepared with extract of liquorice.

The mercurial pill is one of the beſt preparations of mercury, and may in general ſuperſede moſt other forms of this medicine. It is neceſſary to form the maſs immediately into pills, as it ſoon becomes too hard. Sope was undoubtedly a very improper medium for triturating the mercury; it is not only too hard for that purpoſe, but when the preparation entered the ſtomach, the alkaline part of the ſope, being diſengaged by the acid in the compound, the mercury would, in all probability, be immediately ſeparated. The manna and liquorice powder can only be changed by the natural powers of digeſtion, and can never oppreſs the ſtomach. The doſe of the pills is from two to four or ſix in the day, according to the effects we wiſh to produce.

PILULÆ HYDRARGYRI MURIATI MITIS, ſive CALOMELANOS COMPOSITÆ, vulgo PILULÆ PLUMMERI.

Edin.

Pills of mild muriated quickſilver, or *compound pills of calomel*, commonly called *Plummer's pills.*

Take of

Mild muriated quickſilver,
Precipitated ſulphur of antimony, each ſix drachms;
Extract of gentian,
White Spaniſh ſope, each two drachms.

Let the mild muriated quickſilver be triturated with the ſulphur till they be thoroughly mixed, then add the extract and ſope, and form a maſs with ſimple ſyrup.

These pills were recommended to the attention of the public near fifty years ago by Dr Plummer, whoſe name they ſtill bear. He repreſented them, in a paper which he publiſhed in the Edinburgh Medical Eſſays, as a very uſeful alterative. The doſe of them is from five to twelve grains twice a day.

PILULÆ OPII.

Lond.

Opium Pills.

Take of

Hard purified opium, two drachms;
Extract of liquorice, one ounce.

Beat them until they are perfectly united.

PILULÆ OPII, ſive THEBAICÆ, vulgo PILULÆ PACIFICÆ.

Edinb.

Pills of opium, or *thebaic pills*, commonly called *Pacific Pills.*

Take of
  Opium, half an ounce;
  Extract of liquorice, two ounces;
  Caſtile ſope, an ounce and a half;
  Jamaica pepper, one ounce.
Soften the opium and extract ſeparately with proof ſpirit, and having beat them into a pulp, mix them; then add the ſope and the pepper beat into a powder; and laſtly, having beat them well together, form the whole into a maſs.

These two compoſitions, though differing in ſeveral particulars, are yet fundamentally very much the ſame. The firſt is a ſimple opiate, in which every five grains of the maſs contains one of opium; and on the opium alone can we ſuppoſe that the activity of the medicine depends.

Although ſome of the articles, contained in the latter compoſition, may perhaps be ſuppoſed to operate as corrigentia, yet the former compoſition, which is the moſt ſimple, is in general preferable.

Pills ſimilar to the ſecond were contrived by Starkey, and communicated by him to Matthews, under whoſe name they were ſometime ago greatly celebrated. The form here given differs conſiderably from the original, in omitting many ingredients of no great ſervice. Nor indeed are any of the ingredients of much conſequence except the opium; their quantity being too inconſiderable to anſwer any uſeful purpoſe. Ten grains of the compoſition contain one of opium.

PILULÆ SCILLÆ.

Lond.

Squill pills.

Take of
  Freſh dried ſquills, powdered, one drachm;
  Ginger, powdered,
  Sope, of each three drachms;
  Ammoniacum, two drachms;
  Syrup of ginger, as much as is ſufficient.
Beat them together.

PILULÆ SCILLITICÆ.

Edin.

Squill pills.

Take of
  Dried root of ſquills, in fine powder, one ſcruple;
  Gum ammoniac,
  Leſſer cardamom ſeeds in powder,
  Extract of liquorice, each one drachm.
Mix, and form them into a maſs with ſimple ſyrup.

These are elegant and commodious forms for the exhibition of ſquills, whether for promoting expectoration, or with the other intentions to which that medicine is applied. As the virtue of the compound is derived chiefly from the ſquills, the other ingredients are often varied in extemporaneous preſcription.

PILULÆ RHEI COMPOSITÆ, vulgo PILULÆ STOMACHICÆ.

Edinb.

Compound pills of Rhubarb, commonly called *Stomachic Pills.*

Take of
- Rhubarb, one ounce;
- Socotorine aloes, ſix drachms;
- Myrrh, half an ounce;
- Vitriolated lixive, one drachm;
- Eſſential oil of mint, half a drachm.

Make them into a maſs, with a ſufficient quantity of ſyrup of Orange peel.

THIS pill is intended for moderately warming and ſtrengthening the ſtomach, and gently opening the belly. A ſcruple of the maſs may be taken twice a-day.

PILULÆ BECHERI.

Gen.

Becher's Pill.

Take of
- Extract of black hellebore,
- Purified myrrh, each one ounce;
- Powder of carduus benedictus, two ſcruples.

Mix them into a maſs according to art, to be dried in the air till it be fit for the formation of pills, each weighing one grain.

THESE pills have been ſtrongly recommended as a moſt effectual remedy in dropſical caſes, and have been alleged to unite an evacuant and tonic power. Hence they have been conſidered as particularly ſuited to thoſe caſes where remarkable weakneſs and laxity occurs. Under the hands of Dr Becher the inventor, they acquired ſo great reputation, that after a trial in the military hoſpitals at Paris, the receipt was purchaſed by the French king, and publiſhed by authority. But like many other noſtrums, Becher's pill, ſince its publication, has by no means ſupported the reputation which it had when kept a ſecret. The doſe is varied according to circumſtances, from one to thirty pills in the courſe of the day.

PILULÆ de GAMBOGIA.

Dan.

Gamboge Pills.

Take of
- Socotorine aloes,
- Extract of black hellebore,
- Sweet mercury,
- Gamboge, each two drachms;
- Diſtilled oil of juniper, half a drachm;
- Syrup of buckthorn, as much as is ſufficient for forming a maſs of pills.

FROM the ingredients of which theſe pills are compoſed, they muſt prove a very powerful purgative. The gamboge, from which they derive their name, is unqueſtionably a very active purge.

PILULÆ e MERCURIO CORROSIVO ALBO.

Suec.

Pills of corroſive ſublimate Mercury.

Take of
- Corroſive ſublimate,
- Purified ſal ammoniac, each one ſcruple;
- Diſtilled water, as much as is ſufficient to diſſolve them;
- Powder of the root of marſhmallow, ſixteen ſcruples;
- Honey, two drachms.

Mix them into a maſs for the formation of pills, each weighing three grains.

Corrosive ſublimate in ſubſtance was long conſidered as being ſo violent in its effects, that it could not with ſafety be taken internally; but for a conſiderable time it has been uſed with advantage under the form of ſolution, either in water or ſpirits. But to both theſe a conſiderable objection occurs from their diſagreeable braſſy taſte. This objection is however entirely obviated, by reducing the ſolution, after it is formed, to a ſolid maſs, by means of crumb of bread, or any proper powder: And by the aid of a little ſal ammoniac, the ſolution may be made in a very ſmall quantity of water; ſo that leſs of any ſolid intermedium will be ſufficient to bring it to the form of pills. The formula here directed ſeems well ſuited for the purpoſe intended. Each of the pills contains about an eighth of a grain of the corroſive; thus the doſe may be eaſily regulated according to the intention in view. Theſe pills are not unfrequently employed with advantage; both in combating venereal and cutaneous affections, and for the expulſion of worms from the alimentary canal. With the latter of theſe intentions, a ſimilar pill was particularly recommended by Dr Gardner, in a paper publiſhed in the Edinburgh Phyſical and Literary Eſſays. And although not received into our pharmacopœia, it has been frequently uſed at Edinburgh.

PILULÆ PICEÆ.

Dan.

Tar-pills.

Take any quantity of tar, and mix with it as much powdered elecampane root as will reduce it to a proper thickneſs for being formed into pills.

The powder here mixed with the tar, though of no great virtue, is nevertheleſs a very uſeful addition, not only for procuring it a due conſiſtence, but likewiſe as it divides the reſinous texture of the tar, and thus contributes to promote its ſolution by the animal juices. In the Edinburgh Infirmary, half a drachm of the maſs, made into middle-ſized pills is given every morning and evening in diſorders of the breaſt, ſcurvies, &c.

PILULÆ e STYRACE.

Suec.

Storax-pills.

Take of
Strained ſtorax, five ſcruples;
Extract of liquorice, three drachms;
Opium, one drachm.
Let the opium, diſſolved in wine, be added to the other ingredients, ſo as to form a maſs of proper conſiſtence, to be made into pills, each weighing three grains.

These pills are principally active in conſequence of the opium which they contain; and they are chiefly meant with a view to a ſlow ſolution in the ſtomach, and conſequently producing more gradual and laſting effects. One grain of opium is contained in ſeventeen grains of the maſs.

CHAP. XXIX.

ELECTUARIA.

ELECTUARIES.

ELECTUARIES are compoſed chiefly of powders mixed up with ſyrups, &c. into ſuch a conſiſtence, that the powders may not ſeparate in keeping, that a doſe may be eaſily taken up on the point of a knife, and not prove too ſtiff to ſwallow.

Electuaries receive chiefly the milder alterative medicines, and ſuch as are not ungrateful to the palate. The more powerful drugs, as cathartics, emetics, opiates, and the like (except in officinal electuaries to be diſpenſed by weight,) are ſeldom truſted in this form, on account of the uncertainty of the doſe; diſguſtful ones, acrids, bitters, fetids, cannot be conveniently taken in it; nor is the form of an electuary well fitted for the more ponderous ſubſtances, as mercurials, theſe being apt to ſubſide in keeping, unleſs the compoſition be made very ſtiff.

The lighter powders require thrice their weight of honey, or ſyrup boiled to the thickneſs of honey, to make them into the conſiſtence of an electuary; of ſyrups of the common conſiſtence twice the weight of the powder is ſufficient.

Where the common ſyrups are employed, it is neceſſary to add likewiſe a little conſerve, to prevent the compound from drying too ſoon. Electuaries of Peruvian bark, for inſtance, made up with ſyrup alone, will often in a day or two grow too dry for taking.

Some powders, eſpecially thoſe of the leſs grateful kind, are more conveniently made up with mucilage than with ſyrup, honey, or conſerve. The three latter ſtick about the mouth and fauces, and thus occaſion the taſte of the medicine to remain for a conſiderable time: while mucilages paſs freely without leaving any taſte in the mouth. A little ſoft extract of liquorice, joined to the mucilage, renders the compoſition ſufficiently grateful, without the inconveniences of the more adheſive ſweets.

The quantity of an electuary, directed at a time, in extemporaneous preſcription, varies much according to its conſtituent parts;

but it is rarely leſs than the ſize of a nutmeg, or more than two or three ounces.

General rules for making electuaries.

I.

The rules already laid down for decoctions and powders in general, are likewiſe to be obſerved in making decoctions and powders for electuaries.

II.

Gums, inſpiſſated juices, and ſuch other ſubſtances as are not pulveriſable, ſhould be diſſolved in the liquor preſcribed: then add the powders by little and little, and keep the whole briſkly ſtirring, ſo as to make an equal and uniform mixture.

III.

Aſtringent electuaries, and ſuch as have pulps of fruit in their compoſition, ſhould be prepared only in ſmall quantities at a time: For aſtringent medicines loſe much of their virtue on being kept in this form, and the pulps of fruit are apt to become ſour.

IV.

The ſuperfluous moiſture of the pulps ſhould be exhaled over a gentle fire, before the other ingredients are added to them.

V.

Electuaries, if they grow dry in keeping, are to be reduced to a due conſiſtence, with the addition of a little Canary wine, and not with ſyrup or honey; by this means, the doſe will be the leaſt uncertain; a circumſtance deſerving particular regard, eſpecially in thoſe which contain opium.

ELECTUARIUM CASSIÆ.

Lond.

Electuary of Caſſia.

Take of
- The freſh extracted pulp of caſſia, half a pound;
- Manna, two ounces;
- Pulp of tamarinds, one ounce;
- Roſe-ſyrup, half a pound.

Beat the manna, and diſſolve it over a ſlow fire in the roſe ſyrup; then add the pulps; and, with a continued heat, evaporate the whole to the proper thickneſs of an electuary.

ELECTUARIUM CASSIÆ, vulgo DIACASSIA.

Edinb.

Electuary of Caſſia, commonly called *Diacaſſia.*

Take of
- Pulp of caſſia fiſtularis, ſix ounces;
- Pulp of tamarinds,
- Manna, each an ounce and a half;
- Syrup of pale roſes, ſix ounces.

Having beat the manna in a mortar, diſſolve it with a gentle heat in the ſyrup; then add the pulps, and evaporate them with a regularly continued heat to the conſiſtence of an electuary.

These compoſitions are very convenient officinals, to ſerve as a baſis for purgative electuaries and other ſimilar purpoſes. The tamarinds give them a pleaſant taſte, and do not ſubject them, as might be expected, to turn ſour. After ſtanding for four months, the compoſition has been found no ſourer than when firſt made. This electuary likewiſe is uſefully taken by itſelf, to the quantity of two or three drachms occaſionally, for gently looſening the belly in coſtive habits.

ELECTUARIUM SCAMMONII.
Lond.
Electuary of Scammony.

Take of
Scammony, in powder, an ounce and a half;
Cloves,
Ginger, of each ſix drachms;
Eſſential oil of caraway ſeeds, half a drachm;
Syrup of roſes, as much as is ſufficient.

Mix the ſpices, powdered together, with the ſyrup; then add the ſcammony, and laſtly the oil of caraway.

THIS electuary is a warm, briſk purgative. It is a reform of the *Electuarium caryocoſtinum* of our preceding diſpenſatories, a compoſition which was greatly complained of, as being inconvenient to take, on account of the largeneſs of its doſe. A drachm and a half of this, which contains fifteen grains of ſcammony, is equivalent to half an ounce of the other.

ELECTUARIUM SENNÆ.
Lond.
Electuary of Senna.

ELECTUARIUM SENNÆ, vulgo ELECTUARIUM LENITIVUM.
Edin.
Electuary of Senna, commonly called *Lenitive Electuary.*

Take of
Senna, eight ounces;
Figs, one pound;
Pulp of tamarinds,
of caſſia,
of prunes, each half a pound;
Coriander ſeeds, four ounces;
Liquorice, three ounces;
Double-refined ſugar, two pounds and an half.

Powder the ſenna with the coriander-ſeeds, and ſift out ten ounces of the mixt powder. Boil the remainder with the figs and liquorice, in four pints of diſtilled water, to one half; then preſs out and ſtrain the liquor. Evaporate this ſtrained liquor to the weight of about a pound and an half; then add the ſugar, and make a ſyrup; add this ſyrup by degrees to the pulps, and laſtly mix in the powder.

THIS electuary is now freed from ſome ſuperfluous ingredients which were left in it at former reviſals; viz. polypody root, French mercury leaves, fenugreek ſeeds, and lintſeed.

It is a very convenient laxative, and has long been in common uſe among practitioners. Taken to the quantity of a nutmeg or more, as occaſion may require, it is an excellent laxative for looſening the belly in coſtive habits.

ELECTUARIUM CATECHU, vulgo CONFECTIO JAPONICA.
Edinb.
Electuary of Catechu, commonly called *Japonic Confection.*

Take of
Extract of catechu, four ounces;
Gum kino, three ounces;
Cinnamon,
Nutmeg, each one ounce;
Opium diffuſed in a ſufficient quan-

quantity of Spaniſh white wine, one drachm and a half;
Syrup of dried roſes boiled to the conſiſtence of honey, two pounds and a quarter.
Mix and make them into an electuary.

The ingredients in this electuary are extremely well choſen, and are ſo proportioned to one another, that the quantity of opium is the ſame as in the diaſcordium of the former Edinburgh pharmacopœias viz. one grain in ten ſcruples. The gum kino, now ſubſtituted for the tormentil root, is an excellent improvement of the formula.

ELECTUARIUM JOVIALE.

Brun.

Tin Electuary.

Take of
Pure tin,
Quickſilver, each one ounce.
Let them be formed into an amalgam.
Oyſter ſhells, prepared, one ounce;
Reduce the whole to a powder.
Take of
This powder,
Conſerve of wormwood, each one ounce, and form an electuary with ſyrup of mint.

Tin, as we have already had occaſion to obſerve under the article Stannum Pulveriſatum, has long been celebrated for the expulſion of tænia. And it is alſo well known, that in mercury we have one of the moſt powerful anthelmintics. Such a combination as the preſent, then, might be ſuppoſed well ſuited for the removal of worms from the alimentary canal; and accordingly it has been alleged, that this electuary has ſometimes ſucceeded after other remedies have failed. It may be taken twice a-day, to the extent of two or three drachms for a doſe.

ELECTUARIUM GINGIVALE.

Suec.

Electuary for the Gums.

Take of
Powdered myrrh, three drachms;
Cream of tartar,
Cochineal, each a drachm and a half.
Grind them together in a glaſs mortar; then add
Melted honey, four ounces;
Cloves, in powder, one drachm.

Myrrh, particularly under the form of tincture, has long been a favourite application to the gums, when in a ſpongy or ulcerated ſtate; but the ſpirituous menſtruum there employed, although ſometimes favouring the intention in view, in other inſtances occurs as an objection to its uſe. In theſe caſes, the benefit to be derived from the myrrh may be obtained from this electuary, which may always be applied with ſafety, and ſometimes with advantage.

ELECTUARIUM e MANNA.

Suec.

Electuary of Manna.

Take of
Manna,
Refined ſugar, pounded,
Fennel water, each two ounces.
Strain the mixture, uſing expreſſion; then add,
Fine powder of the root of florentine orris, one drachm;
Freſh drawn almond oil, one ounce.

In this electuary we have a gently emollient laxative, which is very uſeful in theſe caſes, where obſtipation either ariſes from indurated feces, or is ſupported by that cauſe; but its cathartic powers are by no means conſiderable.

ELECTUARIUM NITROSUM.

Gen.

Nitrous Electuary.

Take of
  Purified nitre, half an ounce;
  Conſerve of roſes, four ounces.
Mix them.

Under this formula, nitre may be introduced to a conſiderable extent, without offending the ſtomach, while at the ſame time its refrigerant power is combined with the aſtringency of the roſes. From theſe circumſtances it may be advantageouſly employed in different caſes, but particularly in inſtances of hæmoptyſis.

ELECTUARIUM TEREBINTHINATUM.

Suec.

Terebinthinate Electuary.

Take of
  Spirit of turpentine, half an ounce;
  Honey, one ounce;
  Powder of liquorice, as much as is ſufficient for the formation of an electuary.

Under this form, the oil of turpentine may be introduced with leſs uneaſineſs, than perhaps under almoſt any other; and it may thus be employed for different purpoſes, but particularly with a view to its diuretic power. It has been eſpecially celebrated for the cure of obſtinate rheumatiſms, and above all, for that modification of rheumatiſm which has the name of *iſchias*, and which is found in many inſtances, obſtinately to reſiſt other modes of cure.

LINCTUS LENIENS.

Suec.

Lenient Linctus.

Take of
  Gum arabic, bruiſed, two drachms;
  Cherry-water, half an ounce.
By trituration in a mortar, mix with them,
  Almond oil, freſh drawn,
  Syrup of almonds, each ſeven ounces.

In this we have a very agreeable emollient linctus, highly uſeful in recent catarrhal affections, for lubricating the throat and fauces. It may be taken at pleaſure to any extent that the ſtomach may eaſily bear.

CHAP.

CHAP. XXX.

CONFECTIONES.

CONFECTIONS.

ALTHOUGH the London college have ſeparated theſe from electuaries, yet they differ ſo little, that in moſt pharmacopœias they are ranked under the ſame head. But as no inconvenience ariſes from the ſeparation; and as we have followed the order of the London pharmacopœia in other particulars, it would be improper to deviate from it in this.

CONFECTIO AROMATICA.
Lond.
Aromatic Confection.

Take of
- Zedoary, in coarſe powder,
- Saffron, of each half a pound;
- Diſtilled water, three pints.

Macerate for twenty-four hours; then preſs and ſtrain. Reduce the ſtrained liquor, by evaporation, to a pint and a half, to which add,
- Compound powder of crabs-claws, ſixteen ounces;
- Cinnamon,
- Nutmegs, of each two ounces;
- Cloves, one ounce;
- Smaller cardamom ſeeds, half an ounce;
- Double-refined ſugar, two pounds.

Make a confection.

THIS confection is compoſed of the more unexceptionable ingredients of a compoſition formerly held in great eſteem, and which was called, from its author, CONFECTIO RALEIGHANA. The original confection was compoſed of no leſs than five and twenty ingredients.

The confection, as now reformed, is a ſufficiently grateful and moderately warm cordial; and frequently given with that intention, in doſes of from eight or ten grains to a ſcruple or upwards, in boluſes or draughts. The formula might perhaps be ſtill more ſimplified without any loſs. The crabs-claw powder does not appear to be very neceſſary, and is inſerted rather in compliance with the original, than from its contributing any thing to the intention of the medicine; and the following formula of the Edinburgh pharmacopœia ſeems preferable to that of the London, even in its preſent improved ſtate.

ELECTUARIUM AROMATICUM, vulgo CONFECTIO CARDIACA.

Edinb.

Aromatic Electuary, commonly called *Cordial Confection.*

Take of

- Aromatic powder, three ounces;
- Syrup of orange peel, boiled to the conſiſtency of honey, ſix ounces.

Mix them by rubbing them well together ſo as to form an electuary.

In the above ſimple and elegant formula, a number of trifling ingredients are rejected, and thoſe ſubſtituted in their place are medicines of approved efficacy. This preparation is therefore an uſeful remedy for the purpoſes expreſſed in its title.

CONFECTIO OPIATA.

Lond.

Confection of Opium.

Take of

- Hard purified opium, powdered, ſix drachms;
- Long pepper,
- Ginger,
- Caraway ſeeds, of each two ounces;
- Syrup of white poppy, boiled to the conſiſtence of honey, three times the weight of the whole.

Mix the purified opium carefully with the ſyrup gently heated: then add the reſt, rubbed to powder.

ELECTUARIUM OPIATUM, vulgo ELECTUARIUM THEBAICUM.

Edinb.

Opiate Electuary, commonly called *Thebaic Electuary.*

Take of

- Aromatic powder, ſix ounces;
- Virginian ſnake-root, in fine powder, three ounces;
- Purified opium diffuſed in a ſufficient quantity of Spaniſh white wine, half an ounce;
- Clarified honey, thrice the weight of the powders.

Mix them, and form an electuary.

These compoſitions conſiſt of very powerful ingredients, and are doubtleſs capable of anſwering every end that can be reaſonably expected from the more voluminous Theriaca of Andromachus. The London college alſo had formerly their Theriac compoſed of the leſs exceptionable ingredients of Andromachus's. But as theſe medicines have for a long time been chiefly employed for external purpoſes, by the way of cataplaſm, *Theriaca Londinenſis* is now omitted, and its place ſupplied by a cataplaſm compoſed of a few well-choſen articles under the name of *Cataplaſma e cymino*; of which hereafter. For internal uſe, none of the theriacs are at preſent ſo much regarded as they have been heretofore; practitioners having introduced in their room extemporaneous boluſes of Virginian ſnake-root, camphor, contrayerva, and the like; which anſwer all their intentions, with this advantage, that they may be given either with or without opium; an ingredient which renders the others prejudicial in caſes where they might otherwiſe be proper.

With regard to the quantity of opium in the foregoing compoſitions, one grain of it is contained in thirty ſix grains of the *Confectio opiata*, and in a drachm of the *Electuarium opiatum*. The proportion of opium will vary a little, according to the time that they have been kept; their moiſture by degrees exhaling, ſo as to leave the remainder ſtronger of the opium than an equal weight was at firſt. A change of this kind is taken notice of by many writers, but falſely attributed to an imaginary fermentative quality of the ingredients; by which they were ſuppoſed, from their multiplicity and contrariety, to be continually exalting and improving the virtues of each other.

A good deal of care is requiſite in making theſe compoſitions, to prevent the waſte which is apt to happen in the pounding, and which would render the proportion of opium to the other ingredients precarious. The intention of diſſolving the opium in wine, for theſe and other electuaries, is, that it may be more uniformly mixed with the reſt.

THESE compoſitions fully ſupply the place of two articles, which though long baniſhed from the ſhops, we ſhall here ſubjoin; as examples of the amazing height to which compoſition in medicine had at one time proceeded.

MITHRIDATUM, ſive CONFECTIO DEMOCRATIS.

Mithridate, or the Confectoin of Democrates.

Take of
Cinnamon, fourteen drachms;
Myrrh, eleven drachms;
Agaric,
Indian nard,
Ginger,
Saffron,
Seeds of mithridate muſtard,
Frankincenſe,
Chio turpentine, each ten drachms;
Camels hay,
Coſtus, or in its ſtead, Zedoary,
Indian leaf, or in its ſtead, Mace,
Stechas,
Long pepper,
Hartwort ſeeds,
Hypociſtis,
Storax ſtrained,
Opoponax,
Galbanum ſtrained,
Opobalſam, or in its ſtead, expreſſed oil of nutmegs,
Ruſſian caſtor, each one ounce;
Poley mountain,
Scordium,
Carpobalſam, or in its ſtead, Cubebs,
White pepper,
Candy carrot ſeed,
Bdellium ſtrained, each ſeven drachms;
Celtic nard,
Gentian root,
Dittany of Crete,
Red roſes,
Macedonian parſley ſeed,
Leſſer cardamom ſeeds, huſked,
Sweet fennel ſeed,
Gum Arabic,
Opium ſtrained, each five drachms;
Calamus aromaticus,
Wild valerian root,
Aniſeed,
Sagapenum, ſtrained, each three drachms;
Meum athamanticum,
St John's wort,
Acacia, or in its ſtead, Terra Japonica,
Bellies of ſkinks, each two drachms and a half;

Clarified honey, thrice the weight of all the other ingredients.

Warm the honey, and mix with it the opium diſſolved in wine; melt the ſtorax, galbanum, turpentine, and opobalſam (or expreſſed oil of nutmegs) together in another veſſel, continually ſtirring them about, to prevent their burning; with theſe ſo melted, mix the hot honey, at firſt by ſpoonfuls, and afterwards in larger quantities at a time; when the whole is grown almoſt cold, add by degrees the other ſpices reduced into powder.

THERIACA ANDROMACHI.

Theriaca of Andromachus, or *Venice Treacle.*

Take of
Troches of ſquills, half a pound,
Long pepper,
Opium, ſtrained,
Vipers, dried, each three ounces;
Cinnamon,
Opobalſam, or in its ſtead, expreſſed oil of nutmegs, each two ounces;
Agaric,
Florence orris root,
Scordium,
Red roſes,
Navew ſeeds,
Extract of liquorice, each an ounce and a half;
Indian nard,
Saffron,
Amomum,
Myrrh,
Coſtus, or in its ſtead, Zedoary,
Camel's hay, each one ounce;
Cinquefoil root,
Rhubarb,
Ginger,
Indian leaf, or in its ſtead, Mace,
Dittany of Crete,
Horehound leaves,
Calamint leaves,
Stechas,
Black pepper,
Macedonian parſley ſeed,
Olibanum,
Chio turpentine,
Wild valerian root, each ſix drachms;
Gentian root,
Celtic nard,
Spignel,
Poley mountain }
St John's wort } leaves,
Groundpine }
Germander tops, with the ſeed,
Carpobalſam, or in its ſtead Cubebs,
Aniſeed,
Sweet fennel ſeed,
Leſſer cardamom ſeeds, huſked,
Biſhop's weed }
Hartwort } ſeeds,
Treacle muſtard }
Hypociſtis,
Acacia, or in its ſtead, Japan earth,
Gum Arabic,
Storax, ſtrained,
Sagapenum, ſtrained,
Terra Lemnia, or in its ſtead bole armenic, or French bole,
Green vitriol, calcined, each half an ounce;
Small (or in its ſtead, the long) birthwort root,
Leſſer centaury tops,
Candy carrot ſeed,
Opopanax,
Galbanum, ſtrained,
Ruſſia caſtor,
Jews pitch, or in its ſtead white amber prepared,
Calamus aromaticus, each two drachms;
Clarified honey, thrice the weight of all the other ingredients.

Let theſe ingredients be mixed together, after the ſame manner as directed in making the mithridate.

THESE celebrated electuaries are often mentioned by medical writers, and may ſerve as examples of the wild exuberance of compoſition which the ſuperſtition of former ages brought into vogue. The theriaca is a reformation of the Mithridate, made by Andromachus phyſician to Nero: the mithridate itſelf is ſaid to have been found in the cabinet of Mithridates king of Pontus. The firſt publiſhers of this pompous arcanum were very extravagant in their commendations of its virtues; the principal of which was made to conſiſt in its being a moſt powerful preſervative againſt all kinds of venom; whoever took a proper quantity in a morning, was enſured from being poiſoned during that whole day: this was confirmed by the example of its ſuppoſed inventor, who, as Celſus informs us, was by its conſtant uſe ſo fortified againſt the commonly reputed poiſons, that none of them would have any effect upon him; but the notions of poiſons which prevailed in thoſe ruder ages were manifeſtly erroneous. Before experience had furniſhed mankind with a competent knowledge of the powers of ſimples, they were under perpetual alarms from an apprehenſion of poiſons, and buſied themſelves in contriving compoſitions which ſhould counteract their effects, accumulating together all thoſe ſubſtances which they imagined to be poſſeſſed of any degree of alexipharmac power. Hence proceed the voluminous antidotes which we meet with in the writings of the antient phyſicians; yet it does not appear that they were aquainted with any real poiſon except the cicuta, aconitum, and bites of venomous animals; and for theſe they knew of no antidote whatever. Even admitting the reality of the poiſons, and the efficacy of the ſeveral antidotes ſeparately, the compoſitions could no more anſwer the purpoſes expected from them, than the accumulating of all the medicinal ſimples into one form could make a remedy againſt all diſeaſes.

CHAP. XXXI.

AQUÆ MEDICATÆ.

MEDICATED WATERS.

WE have already taken notice of many articles which are either diſſolved in water, or communicate their virtues to it. And in one ſenſe of the word, theſe may be called *medicated waters*. Sometimes this impregnation is effected by the aid of heat, ſometimes without it, and thus are formed decoctions, infuſions, and the like. But among thoſe articles referred to in this chapter, there takes place mere watery ſolution only, and they are uſed ſolely with the intention of acting topically in the way of lotion, injection, or, at the utmoſt, of gargariſm.

AQUA ALUMINIS COMPOSITA.

Lond.

Compound Alum-water.

Take of
- Alum,
- Vitriolated zinc, of each half an ounce;
- Boiling diſtilled water, two pints.

Pour the water on the ſalts in a glaſs veſſel, and ſtrain.

THIS water was long known in our ſhops under the title of *Aqua aluminoſa Bateana*.

Bates directed the ſalts to be firſt powdered and melted over the fire; but this is needleſs trouble, ſince the melting only evaporates the aqueous parts, which are reſtored again on the addition of the water.

This liquor is uſed for cleanſing and healing ulcers and wounds; and for removing cutaneous eruptions, the part being bathed with it hot three or four times a day. It is ſometimes likewiſe employed as a collyrium; and as an injection in the gonorrhœa and fluor albus, when not accompanied with virulence.

AQUA CUPRI AMMONIATI.

Lond.

Water of ammoniated Copper.

Take of
Lime-water, one pint;
Sal ammoniac, one drachm.
Let them ſtand together, in a copper veſſel, till the ammonia be ſaturated with copper.

This water is at preſent pretty much in uſe as a detergent of foul and obſtinate ulcers, and for taking away ſpecks or films in the eyes. The copper contributes more to its colour than to its medicinal efficacy; for the quantity of the metal diſſolved is extremely ſmall.

This preparation, directed by the London College, is much inferior to the *Aqua Æruginis ammoniatæ* of the Edinburgh pharmacopœia, mentioned in page 420.

AQUA LITHARGYRI ACETATI COMPOSITA.

Lond.

Compound Water of acetated Litharge.

Take of
Acetated water of litharge, two drachms;
Diſtilled water, two pints;
Proof-ſpirit, two drachms.
Mix the ſpirit with the acetated water of litharge; then add the diſtilled water.

This liquor is of the ſame nature with ſolution of *ſaccharum ſaturni*, and is analogous to the Vegeto mineral water of Mr Goulard. It is only uſed externally, as a coſmetic againſt cutaneous eruptions, redneſs, inflammation, &c.

AQUA ZINCI VITRIOLATI CUM CAMPHORA.

Lond.

Water of vitriolated Zinc with Camphor.

Take of
Vitriolated zinc, half an ounce;
Camphorated ſpirit, half an ounce by meaſure;
Boiling water two pints.
Mix, and filter through paper.

This is an improved method of forming the *Aqua vitriolica camphorata* of the former editions of the London pharmacopœia. It is uſed externally as a lotion for ſome ulcers, particularly thoſe in which it is neceſſary to reſtrain a great diſcharge. It is alſo not unfrequently employed as a collyrium in ſome caſes of ophthalmia, where a large diſcharge of watery fluid takes place from the eyes with but little inflammation; but when it is to be applied to this tender organ, it ought firſt, at leaſt, to be diluted by the addition of more water.

AQUA ZINCI VITRIOLATA, vulgo AQUA VITRIOLICA.

Edin.

Vitriolated water of Zinc, commonly called *Vitriolic Water.*

Take of
Vitriolated zinc, ſixteen grains;
Water, eight ounces;
Diluted vitriolic acid, ſixteen drops.
Diſſolve the vitriolated zinc in the water,

water, and then adding the acid, ſtrain through paper.

Where the eyes are watery or inflamed, this ſolution of vitriolated zinc is a very uſeful application: the ſlighter inflammations will frequently yield to this medicine, without any other aſſiſtance: in the more violent ones, veneſection and cathartics are to be premiſed to its uſe.

CHAP. XXXII.

EMPLASTRA.

PLASTERS.

PLASTERS are compoſed chiefly of oily and unctuous ſubſtances, united with powders into ſuch a conſiſtence, that the compound may remain firm in the cold without ſticking to the fingers; that it may be ſoft and pliable in a low degree of heat, and that by the warmth of the human body it be ſo tenacious as readily to adhere both to the part on which it is applied, and to the ſubſtance on which it is ſpread.

There is, however, a difference in the conſiſtence of plaſters, according to the purpoſes they are to be applied to: Thus, ſuch as are intended for the breaſt and ſtomach ſhould be very ſoft and yielding; while thoſe deſigned for the limbs are made firmer and more adheſive. An ounce of expreſſed oil, an ounce of yellow wax, and half an ounce of any proper powder, will make a plaſter of the firſt conſiſtence; for a hard one, an ounce more of wax, and half an ounce more of powder may be added. Plaſters may likewiſe be made of reſins, gummy reſins, &c. without wax, eſpecially in extemporaneous preſcription: for officinals theſe compoſitions are leſs proper, as they ſoon grow too ſoft in keeping, and fall flat in a warm air.

It has been ſuppoſed, that plaſters might be impregnated with the ſpecific virtues of different vegetables, by boiling the recent vegetable with the oil employed for the compoſition of the plaſter. The coction was continued till the herb was almoſt criſp, with care to prevent the matter from contracting a black colour: after which the liquid was ſtrained off, and ſet on the fire again, till all the aqueous moiſture had exhaled. We have already obſerved, that this treatment does not communicate to the oils any very valuable qualities, even relative to their uſe in a fluid ſtate; much leſs can plaſters, made with ſuch oils, receive any conſiderable efficacy from the herbs.

Calces of lead, boiled with oils, unite with them into a plaſter of an excellent conſiſtence, and which makes a proper baſis for ſeveral other plaſters.

In the boiling of theſe compoſitions, a quantity of water muſt be added, to prevent the plaſter from burning and growing black. Such water, as it may be neceſſary to add during the boiling, muſt be previouſly made hot; for cold liquor would not only prolong the proceſs, but likewiſe occaſion the matter to explode, and be thrown about with violence, to the great danger of the operator: this accident will equally happen on the addition of hot water, if the plaſter be extremely hot.

EMPLASTRUM AMMONIACI CUM HYDRARGYRO.

Lond.

Ammoniacum Plaſter with Quickſilver.

Take of
- Strained ammoniacum, one pound;
- Purified quickſilver, three ounces;
- Sulphurated oil, one drachm, or what is ſufficient.

Rub the quickſilver with the ſulphurated oil until the globules diſappear; then add, by a little at a time, the melted ammoniacum, and mix them.

This is a very well contrived mercurial plaſter. The ammoniacum in general affords a good baſis for the application of the mercury. In ſome caſes, however, it is not ſufficiently adheſive; but this inconvenience may be remedied by the addition of a ſmall quantity of turpentine.

EMPLASTRUM CANTHARIDIS.

Lond.

Plaſter of Spaniſh Flies.

Take of
- Spaniſh flies, finely powdered, one pound;
- Wax plaſter, two pounds;
- Prepared hogs lard, half a pound.

Having melted the plaſter and lard, ſprinkle in the flies, reduced to a very fine powder a little before they coagulate.

EMPLASTRUM CANTHARIDUM, vulgo VESICATORIUM.

Edinb.

Plaſter of Spaniſh flies, commonly called *Bliſtering plaſter.*

Take of
- Mutton ſuet,
- Yellow wax,
- White reſin,
- Spaniſh flies, each equal weights.

Beat the Spaniſh flies into a fine powder, and add them to the other ingredients, previouſly melted, and removed from the fire.

Both theſe formulæ are very well ſuited to excite bliſters; for both are of a proper conſiſtence, and ſufficient degree of tenacity, which are here the only requiſites. Cantharides of good quality, duly applied to the ſkin, never fail of producing bliſters. When, therefore, the deſired effect does not take place, it is to be aſcribed to the flies either being faulty at firſt, or having their activity afterwards deſtroyed by ſome accidental circumſtance; ſuch as too great heat in forming, or in ſpreading the plaſter. When due attention is paid to theſe particulars, the ſimple compoſitions now introduced anſwer the purpoſe better than thoſe compound plaſters with muſtard-ſeed, black pepper, vinegar, verdegris, &c. which had formerly a place in our pharmacopœias. It is not however improbable, that the pain of bliſtering-plaſters might be conſiderably diminiſhed by the addition of a portion of opium, without preventing the good effects otherwiſe to be derived from them.

EMPLASTRUM CERÆ COMPOSITUM.

Lond.

Compound Wax-plaſter.

Take of
  Yellow wax,
  Prepared mutton ſuet, of each three pounds;
  Yellow reſin, one pound.
Melt them together, and ſtrain the mixture while it is fluid.

EMPLASTRUM SIMPLEX, ſive EMPLASTRUM CEREUM.

Edinb.

Simple, or *Wax-plaſter.*

Take of
  Yellow wax, three parts;
  Mutton ſuet,
  White reſin, each two parts.
Melt them together into a plaſter.

This plaſter had formerly the title of *Emplaſtrum attrahens*, and was chiefly employed as a dreſſing after bliſters, to ſupport ſome diſcharge; and is a very well contrived plaſter for that purpoſe. Sometimes however it irritates too much on account of the reſin; and hence, when deſigned only for dreſſing bliſters, the reſin ought to be entirely omitted, unleſs where a continuance of the pain and irritation, excited by the veſicatory, is required. Indeed plaſters of any kind are not very proper for dreſſing bliſters: their conſiſtence makes them ſit uneaſy, and their adheſiveneſs renders the taking them off painful. Cerates, which are ſofter, and leſs adheſive, appear much more eligible: the *Ceratum ſpermatis cœti* will ſerve for general uſe; and for ſome particular purpoſes, the *Ceratum reſinæ flavæ* may be applied.

EMPLASTRUM CUMINI.

Lond.

Cummin Plaſter.

Take of
  Cummin ſeeds,
  Caraway ſeeds,
  Bay-berries, of each three ounces;
  Burgundy pitch, three pounds;
  Yellow wax, three ounces.
Melt the pitch and wax together, and mix with them the reſt of the ingredients, powdered, and make a plaſter.

This plaſter ſtands recommended as a moderately warm diſcutient; and is directed by ſome to be applied to the hypogaſtric region, for ſtrengthening the viſcera, and expelling flatulencies: but it is a matter of great doubt, whether it derives any virtue either from the article from which it is named, or from the caraway ſeeds or bay-berries which enter its compoſition.

EM-

EMPLASTRUM ASÆFŒTIDÆ, vulgo EMPLASTRUM ANTIHYSTERICUM.

Edinb.

Plaſter of Aſafetida, commonly called *Antihyſteric Plaſter*.

Take of
- Litharge plaſter,
- Aſafetida, ſtrained, each two parts;
- Yellow wax,
- Strained galbanum, each one part.

Mix them melted with a gentle heat, and make them into a plaſter.

THIS plaſter is applied to the umbilical region, or over the whole abdomen, in hyſteric caſes; and ſometimes with good effect; but probably more from its effect as giving an additional degree of heat to the part, than from any influence derived from the fetid gums. It has indeed been alleged, that from the application of this plaſter to the abdomen, the taſte of aſafetida can be diſtinctly perceived in the mouth; and it is not improbable, that ſome abſorption of its active parts may take place by the lymphatic veſſels of the ſurface; while, at the ſame time, the aſafetida thus applied muſt conſtantly, in ſome degree, act on the nerves of the noſe. But, in both theſe ways, its influence can be inconſiderable only; and much more effect may be obtained from a very ſmall quantity taken internally.

EMPLASTRUM LADANI COMPOSITUM.

Lond.

Compound Ladanum Plaſter.

Take of
- Ladanum, three ounces;
- Frankincenſe, one ounce;
- Cinnamon, powdered,
- Expreſſed oil of mace, of each half an ounce;
- Eſſential oil of mint, one drachm.

To the melted frankincenſe add firſt the ladanum, ſoftened by heat; then the oil of mace. Mix theſe afterwards with the cinnamon and oil of mint, and beat them together, in a warm mortar, into a plaſter. Let it be kept in a cloſe veſſel.

THIS has been conſidered as a very elegant ſtomach plaſter. It is contrived ſo as to be eaſily made occaſionally (for theſe kinds of compoſitions, on account of their volatile ingredients, are not fit for keeping,) and to be but moderately adheſive, ſo as not to offend the ſkin, and that it may without difficulty be frequently renewed; which theſe ſorts of applications, in order to their producing any conſiderable effect, require to be.

EMPLASTRUM LITHARGYRI.

Lond.

Litharge plaſter.

Take of
- Litharge, in very fine powder; five pounds.
- Olive oil, a gallon;
- Water, two pints;

Boil them with a ſlow fire, conſtantly ſtirring until the oil and litharge unite, and have the conſiſtence of a plaſter. It will be proper to add more boiling water, if the water that was firſt added be nearly conſumed before the end of the proceſs.

EMPLASTRUM LITHARGYRI; vulgo EMPLASTRUM COMMUNE.

Edinb.

Litharge plaſter, commonly called *Common plaſter.*

Take of

Litharge, one part;

Oil olive, two parts.

Boil them, adding water, and conſtantly ſtirring the mixture till the oil and litharge be formed into a plaſter.

The heat in theſe proceſſes ſhould be gentle, and the matter kept conſtantly ſtirring, otherwiſe it ſwells up, and is apt to run over the veſſel. If the compoſition prove diſcoloured, the addition of a little white lead and oil will improve the colour.

Theſe plaſters, which have long been known under the name of *Diachylon*, are the common application in excoriations of the ſkin, ſlight fleſh wounds, and the like. They keep the part ſoft, and ſomewhat warm, and defend it from the air, which is all that can be expected in theſe caſes from any plaſter. Some of our induſtrious medicine-makers have thought theſe purpoſes might be anſwered by a cheaper compoſition, and accordingly have added a large quantity of common whiting and hogs lard: this, however, is by no means allowable, not only as it does not ſtick ſo well, but likewiſe as the lard is apt to grow rancid and acrimonious. The counterfeit is diſtinguiſhable by the eye.

EMPLASTRUM LITHARGYRI COMPOSITUM.

Lond.

Compound Litharge plaſter.

Take of

Litharge-plaſter, three pounds;

Strained galbanum, eight ounces;

Turpentine, ten drachms;

Frankincenſe, three ounces.

The galbanum and turpentine being melted with a ſlow fire, mix with them the powdered frankincenſe, and afterwards the litharge-plaſter melted with a very ſlow fire, and make a plaſter.

EMPLASTRUM GUMMOSUM.

Edinb.

Gum Plaſter.

Take of

Litharge plaſter, eight parts;

Gum ammoniacum, ſtrained,

Strained galbanum,

Yellow wax, each one part.

Melt them together, and make them into a plaſter.

Both theſe plaſters are uſed as digeſtives and ſuppuratives; particularly in abſceſſes, after a part of the matter has been maturated and diſcharged, for ſuppurating or diſcuſſing the remaining hard part; but it is very doubtful whether they derive any advantage from the gums entering their compoſition.

EMPLASTRUM LITHARGYRI CUM HYDRARGYRO.

Lond.

Litharge plaſter with Quickſilver.

Take of
- Litharge-plaſter, one pound;
- Purified quickſilver, three ounces;
- Sulphurated oil, one drachm, or what is ſufficient.

Make the plaſter in the ſame manner as the ammoniacum-plaſter with quickſilver.

EMPLASTRUM HYDRARGYRI, vulgo CERULEUM.

Edinb.

Quickſilver or mercurial plaſter, commonly called *blue plaſter*.

Take of
- Olive oil,
- White reſin, each one part;
- Quickſilver, three parts;
- Litharge plaſter, ſix parts.

Melt the oil and reſin together, and when this mixture is cold, let the quickſilver be rubbed with it till the globules diſappear; then add by degrees the litharge plaſter, melted, and let the whole be accurately mixed.

These mercurial plaſters are conſidered as powerful reſolvents and diſcutients, acting with much greater certainty for theſe intentions than any compoſition of vegetable ſubſtances alone; the mercury exerting itſelf in a conſiderable degree, and being ſometimes introduced into the habit in ſuch quantity as to affect the mouth. Pains in the joints and limbs from a venereal cauſe, nodes, tophi, and beginning indurations of the glands, are ſaid ſometimes to yield to them.

EMPLASTRUM LITHARGYRI CUM RESINA.

Lond.

Litharge plaſter with Reſin.

Take of
- Litharge plaſter, three pounds;
- Yellow reſin, half a pound.

To the litharge plaſter, melted with a very ſlow fire, add the powdered reſin; mix them well, and make a plaſter.

EMPLASTRUM RESINOSUM, vulgo EMPLASTRUM ADHÆSIVUM.

Edinb.

Reſinous plaſter, commonly called *Sticking plaſter*.

Take of
- Common plaſter, five parts;
- White reſin, one part.

Melt them together and make a plaſter.

These plaſters are chiefly uſed as adheſives for keeping on other dreſſings, &c.

EMPLASTRUM PICIS BURGUNDICÆ COMPOSITUM.

Lond.

Compound Burgundy Pitch Plaſter.

Take of
- Burgundy pitch, two pounds;
- Ladanum, one pound;
- Yellow reſin,
- Yellow wax, of each four ounces;
- Expreſſed oil of mace, one ounce.

To the pitch, reſin, and wax, melted together, add firſt the ladanum, and then the oil of mace.

This plaſter was at one time much celebrated under the title of *Emplaſtrum cephalicum*, the name which it formerly held in our pharmacopœias. It was applied in weakneſs or pains of the head, to the temples, forehead, &c. and ſometimes likewiſe to the feet. Schulze relates, that an inveterate rheumatiſm in the temples, which at times extended to the teeth, and occaſioned intolerable pain, was completely cured in two days by a plaſter of this kind (with the addition of a little opium) applied to the part, after many other remedies had been tried in vain. He adds, that a large quantity of liquid matter exuded under the plaſter in drops, which were ſo acrid as to corrode the cuticle: but it is probable, that this was much more the effect of the Burgundy pitch than of any other part of the compoſition; for when applied to very tender ſkin, it often produces even veſication, and in moſt inſtances operates as a rubefacient or emplaſtrum calidum: and as far as it has any good effect in head-ach, it is probable that its influence is to be explained on this ground.

EMPLASTRUM SAPONIS.

Lond.

Sope-plaſter.

Take of
  Sope, half a pound;
  Litharge plaſter, three pounds.
Mix the ſope with the melted litharge-plaſter, and boil them to the thickneſs of a plaſter.

EMPLASTRUM SAPONACEUM.

Edinb.

Saponaceous Plaſter.

Take of
  Litharge plaſter, four parts;
  Gum plaſter, two parts;
  Caſtile ſope, ſcraped, one part.
To the plaſters, melted together, add the ſope; then boil for a little, ſo as to form a plaſter.

These plaſters have been ſuppoſed to derive a reſolvent power from the ſope; and in the laſt, the addition of the gums is ſuppoſed to promote the reſolvent virtue of the ſope; but it is a matter of great doubt, whether they derive any material advantage from either addition.

EMPLASTRUM THURIS COMPOSITUM.

Lond.

Compound Frankincenſe-plaſter.

Take of
  Frankincenſe, half a pound;
  Dragon's blood, three ounces;
  Litharge plaſter, two pounds.
To the melted litharge-plaſter add the reſt, powdered.

This plaſter had formerly in the London pharmacopœia the title of *Emplaſtrum roborans*, and is a reformation of the complicated and injudicious compoſition deſcribed in former pharmacopœias, under the title of *Emplaſtrum ad herniam*. Though far the moſt elegant and ſimple, it is as effectual for that purpoſe as any of the medicines of this kind. If conſtantly worn with a proper bandage, it will, in children, frequently do ſervice; though, perhaps, not ſo much from any ſtrengthening quality of the ingredients, as from its being a ſoft, cloſe, and adheſive covering. It has been ſuppoſed that plaſters compoſed of ſtyptic medicines conſtringe and ſtrengthen the part to which they are applied, but on no very juſt foundation; for plaſters in general relax rather than aſtringe, the unctuous ingredients neceſſary in their compoſition counteracting and deſtroying the effect of the others.

EMPLASTRUM LITHARGYRI COMPOSITUM, vulgo EMPLASTRUM ROBORANS.

Edinb.

Compound Litharge-plaſter, commonly called *ſtrengthening Plaſter.*

Take of
- Litharge plaſter, twenty-four parts;
- White reſin, ſix parts;
- Yellow-wax,
- Oil olive, each three parts;
- Burnt vitriolated iron, eight parts.

Grind the colcothar with the oil, and then add it to the other ingredients previouſly melted.

This plaſter is laid round the lips of wounds and ulcers over the other dreſſings, for defending them from inflammation and a fluxion of humours; which, however, as Mr Sharp very juſtly obſerves, plaſters, on account of their conſiſtence, tend rather to bring on than to prevent. It is alſo uſed in weakneſſes of the large muſcles, as of the loins; and its effects ſeem to proceed from the artificial mechanical ſupport given to the part, which may alſo be done by any other plaſter that adheres with equal firmneſs

EMPLASTRUM de BELLADONNA.

Brun.

Deadly Night ſhade plaſter.

Take of
- The juice of the recent herb of belladona,
- Lintſeed oil, each nine ounces;
- Yellow wax, ſix ounces;
- Venice turpentine, ſix drachms;
- Powder of the herb of belladonna, two ounces.

Let them be formed into a plaſter according to art.

There can be no doubt, that the belladonna, externally applied, has a very powerful influence, both on the nerves and blood veſſels of the part; and thus it has very conſiderable effect both on the circulation and ſtate of ſenſibility of the part; and when applied under the form of this plaſter, eſpecially in affections of the mammæ and ſcrotum, it has been ſaid to have very powerful influence in alleviating pain, in diſcuſſing tumours, and in promoting a favourable ſuppuration.

EMPLASTRUM ad CLAVŎS PEDUM

Dan.

Corn Plaſter.

Take of
- Galbanum, diſſolved in vinegar, and again inſpiſſated, one ounce;
- Pitch, half an ounce;
- Diachylon, or common plaſter, two drachms.

Let them be melted together; and then mix with them;
- Verdegris, powdered,
- Sal ammoniac, each one ſcruple;

And make them into a plaſter.

Of this plaſter, as well as the former, we can ſay nothing from our own experience. It has been celebrated for the removal of corns, and for alleviating the pain which they occaſion; and it is not improbable that it may ſometimes have a good effect from the corroſive articles which it contains: but in other caſes from this very circumſtance, it may tend to aggravate the pain, particularly in the firſt inſtance.

EMPLASTRUM e CONIO.

Suec.

Hemlock-plaſter.

Take of
- Yellow wax, half a pound;
- Oil olive, four ounces;
- Gum ammoniacum, half an ounce;

After they are melted together, mix with them,
- Powdered herb of hemlock, half a pound.

This correſponds very nearly with the Emplaſtrum de cicuta cum ammoniaco, which had formerly a place in our pharmacopœias, and was ſuppoſed to be a powerful cooler and diſcutient, and to be particularly ſerviceable againſt ſwellings of the ſpleen and diſtentions of the hypochondria. For ſome time paſt, it has been among us intirely neglected; but the high reſolvent power Dr Stoerk has diſcovered in Hemlock, and which he found it to exert in this as well as in other forms, intitle it to farther trials. The plaſter appears very well contrived, and the additional ingredients well choſen for aſſiſting the efficacy of the hemlock.

EMPLASTRUM CORROSIVUM.

Gen.

Corroſive Plaſter.

Take of
- Corroſive ſublimate mercury, half a drachm;
- Hogs lard, half an ounce;
- Yellow wax, two drachms.

Mix them according to art.

There can be no doubt that the hydrargyrus muriatus here employed is a very powerful corroſive; and there may be ſome caſes in which it is preferable to other articles of the tribe of cauſtics: But this would ſeem to be a very uneconomical mode of applying it, as but a very ſmall portion of what enters the plaſter can act; and even that portion muſt have its action much reſtrained by the unctuous matters with which it is combined.

EMPLASTRUM e FŒNUGRÆCO, vulgo de MUCILAGINIBUS.

Gen.

Plaſter of Fenugreek, or of Mucilages.

Take of
- Fenugreek-ſeed, two ounces;
- Lintſeed-oil, warm, half a pound.

Infuſe them according to art, and ſtrain; then,

Take of
- Yellow wax, two pounds, and a half;
- Gum ammoniacum, ſtrained, ſix ounces;
- Turpentine, two ounces.

Melt the gum ammoniacum with the turpentine, and by degrees add the oil and wax melted in another veſſel, ſo as to form a plaſter.

This plaſter had formerly a place in our pharmacopœias, but was rejected; and although ſtill held in eſteem by ſome, it is probably of no great value; at leaſt, it would ſeem to derive but little either from the fenugreek ſeed, with which it is now made, or from the oil and mucilages which formerly entered its compoſition.

EMPLASTRUM ex HYOSCYAMO.

Suec.

Henbane plaſter.

This is directed to be prepared in the ſame manner as the emplaſtrum e conio, or hemlock plaſter.

From the well known ſedative power of this plant, as affecting the nervous energy of the part to which it is applied, we might reaſonably conclude that good effects may be obtained from it when uſed under the form of plaſter; and accordingly it has been with advantage employed in this manner, for allaying pain and reſolving ſwelling, in caſes of ſcirrhus and cancer.

EMPLASTRUM PICEUM.

Roſſ.

Pitch plaſter.

Take of
White reſin, ſix ounces;
Ship pitch, ſeven ounces;
Yellow wax, five ounces.
Melt them, and form them into a plaſter.

Pitch, applied externally, has been ſuppoſed to act on two principles, by its warmth and by its adheſive quality. In the former way it may have ſome effect; but it has much more influence in the latter; and particularly it has thus been found to produce a cure in caſes of tinea capitis. When a pitch-plaſter is applied to the affected part of the hairy ſcalp, and allowed to remain there for a few days, it becomes ſo attached to the parts, that it cannot be removed without bringing with it the bulbs of the hair in which the diſeaſe is ſeated; and by this means a radical cure is obtained, after every other remedy has been tried in vain. The cure however is a painful one, and not without danger: for in ſome inſtances, inflammations of an alarming nature have been excited by the injury thus done to the parts. Hence this mode of cure is rarely had recourſe to till others have been tried without effect: and when it is employed, if the diſeaſe be extenſive, prudent practitioners direct its application only to a ſmall portion of the ſcalp at a time, and after one part is fully cured, by application to another in ſucceſſion, the affection may be ſoon completely overcome. With this intention it is moſt common to employ the pitch in its pure ſtate: but the plaſter here directed, while it is no leſs adheſive, is more manageable and flexible.

CHAP. XXXIII.

UNGUENTA ET LINIMENTA.

OINTMENTS AND LINIMENTS.

OINTMENTS and liniments differ from plaſters little otherwiſe than in conſiſtence. Any of the officinal plaſters, diluted with ſo much oil as will reduce it to the thickneſs of ſtiff honey, forms an ointment: by farther increaſing the oil, it becomes a liniment.

In making theſe preparations, the Edinburgh college direct, that fat and reſinous ſubſtances are to be melted with a gentle heat; then to be conſtantly ſtirred, ſprinkling in at the ſame time the dry ingredients, if any ſuch are ordered, in the form of a very fine powder, till the mixture on diminiſhing the heat becomes ſtiff.

UNGUENTUM ADIPIS SUILLÆ.

Lond.

Ointment of Hog's lard.

Take of
- Prepared hog's lard, two pounds;
- Roſe water, three ounces.

Beat the lard with the roſe-water until they be mixed; then melt the mixture with a ſlow fire, and ſet it apart that the water may ſubſide; after which pour off the lard from the water, conſtantly ſtirring until it be cold.

In the laſt edition of the London pharmacopœia, this was ſtyled *Unguentum ſimplex*, the name given by the Edinburgh college to the following.

UNGUENTUM SIMPLEX.

Edinb.

Simple Ointment.

Take of
- Olive oil, five parts;
- White wax, two parts.

Both theſe ointments may be uſed for ſoftening the ſkin and healing chaps. The laſt is, however, preferable, on account of its being of one uniform conſiſtence. For the ſame reaſon it is alſo to be preferred as the baſis of other more compounded ointments.

UN-

UNGUENTUM ÆRUGINIS.

Edinb.

Ointment of Verdegris.

Take of
Reſinous ointment, fifteen parts;
Verdegris, one part.

This ointment is uſed for cleanſing ſores, and keeping down fungous fleſh. Where ulcers continue to run from a weakneſs in the veſſels of the part, the tonic powers of copper promiſe conſiderable advantage.

It is alſo frequently uſed with advantage in caſes of ophthalmia, depending on ſcrophula, where the palpebræ are principally affected; but when it is to be thus applied, it is in general requiſite that it ſhould be ſomewhat weakened by the addition of a proportion of ſimple ointment of hog's lard. An ointment ſimilar to the above, and celebrated for the cure of ſuch inſtances of ophthalmia, has long ſold under the name of *Smellon's eye-ſalve.*

UNGUENTUM CALCIS HYDRARGYRI ALBÆ.

Lond.

Ointment of the white calx of Quickſilver.

Take of
The white calx of quickſilver, one drachm;
Ointment of hogs lard, one ounce and a half,
Mix, and make an ointment.

This is a very elegant mercurial ointment, and frequently uſed in the cure of obſtinate and cutaneous affection. It is an improvement of the *Unguentum e mercurio precipitato* of the laſt London pharmacopœia; the precipitated ſulphur being thrown out of the compoſition, and the quantity of mercury increaſed.

UNGUENTUM ZINCI.

Edinb.

Ointment of Zinc.

Take of
Simple liniment, ſix parts;
Flowers of zinc, one part.

This ointment is chiefly uſed in affections of the eye, particularly in thoſe caſes where redneſs ariſes rather from relaxation than from active inflammation.

UNGUENTUM CANTHARIDIS.

Lond.

Ointment of Spaniſh Flies.

Take of
Spaniſh flies, powdered, two ounces.
Diſtilled water, eight ounces;
Ointment of yellow reſin, eight ounces.
Boil the water with the Spaniſh flies to one half, and ſtrain. To the ſtrained liquor add the ointment of yellow reſin. Evaporate this mixture in a water bath, ſaturated with ſea-ſalt, to the thickneſs of an ointment.

UNGUENTUM INFUSI CANTHARIDUM, vulgo UNGUENTUM EPISPASTICUM MITIUS.

Edinb.

Ointment of infuſion of Cantharides, commonly called Mild epiſpaſtic Ointment.

Take of
Cantharides,
White reſin,

Yellow wax, each one ounce;
Hogs-lard,
Venice turpentine, each two ounces;
Boiling water, four ounces.

Infuſe the cantharides in the water, in a cloſe veſſel, for a night; then ſtrongly preſs out and ſtrain the liquor, and boil it with the lard till the water be conſumed; then add the reſin, wax, and turpentine, and make the whole into an ointment.

These ointments, containing the ſoluble parts of the cantharides, uniformly blended with the other ingredients, are more commodious, occaſion leſs pain, and are no leſs effectual in ſome caſes, than the compoſition with the fly in ſubſtance. This, however, does not uniformly hold; and accordingly the Edinburgh college, with propriety, ſtill retain an ointment containing the flies in ſubſtance.

UNGUENTUM PULVERIS CANTHARIDUM, vulgo UNGUENTUM EPISPASTICUM FORTIUS.

Edinb.

Ointment of powder of Cantharides, commonly called *ſtronger Epiſpaſtic Ointment.*

Take of
Reſinous ointment, ſeven parts;
Powdered cantharides, one part.

This ointment is employed in the dreſſings for bliſters, intended to be made *perpetual* as they are called, or to be kept running for a conſiderable time, which in many chronic, and ſome acute caſes, is of great ſervice. Particular care ſhould be taken, that the cantharides employed in theſe compoſitions be reduced to a very fine powder, and that the mixture be made as equal and uniform as poſſible.

UNGUENTUM CERÆ.

Lond.

Wax Ointment.

Take of
White wax, four ounces;
Spermaceti, three ounces;
Olive oil, one pint.

Stir them, after being melted with a ſlow fire, conſtantly and briſkly, until cold.

This ointment had formerly the title of *Unguentum album* in the London pharmacopœia. It differs very little from the *Unguentum ſimplex* of the Edinburgh pharmacopœia, and in nothing from the *Unguentum ſpermatis ceti* of the London pharmacopœia, excepting that in this ointment the proportion of ſpermaceti is ſomewhat leſs. It is an uſeful cooling ointment for excoriations and other fretings of the ſkin.

UNGUENTUM CERUSSÆ ACETATÆ.

Lond.

Ointment of acetated Ceruſſe.

Take of
Acetated ceruſſe, two drachms;
White wax, two ounces;
Olive-oil, half a pint.

Rub the acetated ceruſſe, previouſly powdered, with ſome part of the olive oil; then add it to the wax, melted with the remaining oil. Stir the mixture until it be cold.

UNGUENTUM CERUSSÆ ACETATÆ, vulgo UNGUENTUM SATURNINUM.

Edinb.

Ointment of acetated ceruſſe, commonly called *Saturnine Ointment.*

Take of
Simple ointment, twenty parts;
Acetated ceruſſe, one part.

Both theſe ointments are uſeful coolers and deſiccatives; much ſuperior both in elegance and efficacy to the *nutritum* or *tripharmacum*, at one time very much celebrated.

UNGUENTUM CERUSSÆ, vulgo UNGUENTUM ALBUM.

Edin.

Ointment of Ceruſſe, commonly called *White Ointment.*

Take of
Simple ointment, five parts;
Ceruſſe, one part.

This is an uſeful, cooling, emollient ointment, of great ſervice in excoriations and other ſimilar frettings of the ſkin. The ceruſſe has been objected to by ſome, on a ſuſpicion that it might produce ſome ill effects, when applied, as theſe unguents frequently are, to the tender bodies of children: The ſmall quantity of ceruſſe, however, which this ointment contains, cannot produce any ill effects without the ointment be applied in too large quantities.

UNGUENTUM ELEMI COMPOSITUM.

Lond.

Compound Ointment of Elemi.

Take of
Elemi, one pound;
Turpentine, ten ounces;
Mutton ſuet, prepared, two pounds;
Olive-oil, two ounces.

Melt the elemi with the ſuet; and having removed it from the fire, mix it immediately with the turpentine and oil; after which ſtrain the mixture.

This ointment, formerly known by the name of *Linimentum Arcæi*, has long been uſed for digeſting, cleanſing, and incarnating; and for theſe purpoſes is preferred by ſome ſurgeons to all the other compoſitions of this kind.

Theſe, however, are much more proceſſes of nature than of art; and it is much to be doubted, whether it has in reality any influence.

UNGUENTUM HELLEBORI ALBI.

Lond.

Ointment of white Hellebore.

Take of
The root of white hellebore, powdered, one ounce;
Ointment of hog's lard, four ounces;
Eſſence of lemons, half a ſcruple.

Mix them, and make an ointment.

White hellebore, externally applied, has long been celebrated in the cure of cutaneous affections; and this is perhaps one of the beſt formulæ under which it can be applied, the hog's lard ointment ſerving as an excellent baſis for it, while the eſſence of lemons communicates to it a very agreeable ſmell.

UNGUENTUM HYDRARGYRI FORTIUS.

Lond.

Stronger Ointment of Quickſilver.

Take of
- Purified quickſilver, two pounds;
- Hog's lard, prepared, twenty-three ounces;
- Mutton-ſuet, prepared, one ounce.

Firſt rub the quickſilver with the ſuet and a little of the hog's lard, until the globules diſappear; than add what remains of the lard, and make an ointment.

UNGUENTUM HYDRARGYRI MITIUS.

Lond.

Weaker Ointment of Quickſilver.

Take of
- The ſtronger ointment of quickſilver, one part;
- Hog's lard, prepared, two parts.

Mix them.

UNGUENTUM HYDRARGYRI, vulgo UNGUENTUM CÆRULEUM.

Edinb.

Ointment of Quickſilver, commonly called *Blue Ointment.*

Take of
- Quickſilver,
- Mutton ſuet, each one part;
- Hog's lard, three parts.

Rub them carefully in a mortar till the globules entirely diſappear.

This ointment may alſo be made with double or treble the quantity of quickſilver.

THESE ointments are principally employed, not with a view to their topical action, but with the intention of introducing mercury in an active ſtate into the circulating ſyſtem; which may be effected by gentle friction on the ſound ſkin of any part, particularly on the inſide of the thighs or legs. For this purpoſe, theſe ſimple ointments are much better ſuited than the more compounded ones with turpentine and the like formerly employed. For by any acrid ſubſtance topical inflammation is apt to be excited, preventing farther friction, and giving much uneaſineſs. To avoid this, it is neceſſary, even with the mildeſt and weakeſt ointment, ſomewhat to change the place at which the friction is performed. It is requiſite that the ointment ſhould be prepared with very great care: for upon the degree of triture which has been employed, the activity of the mercury very much depends. The addition of the mutton ſuet, now adopted by both colleges, is an advantage to the ointment, as it prevents it from running into the ſtate of oil, which the hog's lard alone, in warm weather, or in a warm chamber, is ſometimes apt to do, and which is followed by a ſeparation of parts. We are even inclined to think, that the proportion of ſuet directed by the London college is too ſmall for this purpoſe, and indeed ſeems to be principally intended for the more effectual triture of the mercury: But it is much more to be regretted, that in a medicine of ſuch activity, the two colleges ſhould not have directed the ſame proportion of mercury to the fatty matter. For although both have directed ointments of different ſtrength, neither the weakeſt nor the ſtrongeſt agree in the proportion of mercury which they contain.

UNGUENTUM HYDRARGYRI NITRATI.

Lond.

Ointment of nitrated Quickſilver.

UNGUENTUM HYDRARGYRI NITRATI FORTIUS, vulgo UNGUENTUM CITRINUM.

Edinb.

Strong Ointment of nitrated Quickſilver, commonly called *Yellow Ointment.*

Take of
  Quickſilver, one ounce ;
  Nitrous acid, two ounces ;
  Hog's lard, one pound.
Diſſolve the quickſilver in the nitrous acid, by digeſtion in a ſand-heat; and, while the ſolution is very hot, mix with it the lard, previouſly melted by itſelf, and juſt beginning to grow ſtiff. Stir them briſkly together in a marble mortar, ſo as to form the whole into an ointment.

Although the activity of the nitrated quickſilver be very conſiderably moderated by the animal fat with which it is afterwards united, yet it ſtill affords us a very active ointment ; and as ſuch it is frequently employed with ſucceſs in cutaneous and other topical affections. In this condition, however, the mercury does not ſo readily enter the ſyſtem, as in the preceding form. Hence it may even be employed in ſome caſes with more freedom ; but in other inſtances it is apt to excoriate and inflame the parts. On this account a reduction of its ſtrength is ſometimes requiſite.

UNGUENTUM HYDRARGYRI NITRATI MITIUS.

Edinb.

Milder ointment of nitrated quickſilver.

It is made in the ſame manner as the former, but with double the quantity of the hog's lard.

UNGUENTUM PICIS.

Lond.

Tar Ointment.

Take of
  Tar,
  Mutton-ſuet, prepared, of each half a pound.
Melt them together, and ſtrain.

UNGUENTUM PICIS.

Edinb.

Ointment of Tar.

Take of
  Tar, five parts ;
  Yellow wax, two parts.

These compoſitions cannot be conſidered as differing eſſentially from each other, their activity entirely depending on the tar. It has been ſucceſsfully employed againſt ſome cutaneous affections, particularly thoſe of domeſtic animals. At one time, as well as the black baſilicon of the old pharmacopœias, it was much employed as a dreſſing even for recent wounds.

UNGUENTUM RESINÆ FLAVÆ.

Lond.

Ointment of Yellow Reſin.

Take of
- Yellow reſin,
- Yellow wax, of each one pound;
- Olive oil, one pint.

Melt the reſin and wax with a ſlow fire; then add the oil, and ſtrain the mixture while hot.

UNGUENTUM RESINOSUM, vulgo UNGUENTUM BASILICUM.

Edinb.

Reſinous ointment, commonly called *Baſilicon Ointment.*

Take of
- Hog's lard, eight parts;
- White reſin, five parts;
- Yellow wax, two parts.

These are commonly employed in dreſſings, for digeſting, cleanſing, and incarnating wounds and ulcers. They differ very little, if at all, in their effects, from the *Linimentum Arcæi*, or *unguentum elemi*, as it is now more properly ſtyled; but it is probable that no great effect is to be attributed to either. For there can be no doubt that the ſuppurative and adheſive inflammations are proceſſes of nature, which will occur without the aid of any ointment.

UNGUENTUM SAMBUCI.

Lond.

Elder Ointment.

Take of
- Elder flowers, four pounds;
- Mutton ſuet, prepared, three pounds;
- Olive oil, one pint.

Boil the flowers in the ſuet and oil, till they be almoſt criſp; then ſtrain with expreſſion.

This ointment does not ſeem ſuperior to ſome others. It can ſcarcely be ſuppoſed to receive any conſiderable virtue from the ingredient from which it takes its name; and accordingly, it is with propriety rejected from the Edinburgh pharmacopœia.

UNGUENTUM SPERMATIS CETI.

Lond.

Ointment of Spermaceti.

Take of
- Spermaceti, ſix drachms;
- White wax, two drachms;
- Olive-oil, three ounces.

Melt them together over a ſlow fire, ſtirring them conſtantly and briſkly until they be cold.

This had formerly the name of *Linimentum album*, and it is perhaps only in conſiſtence that it can be conſidered as differing from the *Unguentum ſimplex*, already mentioned, or the *Ceratum ſimplex*, afterwards to be noticed.

UNGUENTUM SULPHURIS.

Lond.

Sulphur Ointment.

Take of
- Ointment of hog's lard, half a pound;
- Flowers of ſulphur, four ounces.

Mix them, and make an ointment.

UNGUENTUM SULPHURIS, vulgo UNGUENTUM ANTIPSORICUM.

Edinb.

Ointment of Sulphur, commonly called *antipſoric Ointment.*

Take of
  Hog's lard, four parts;
  Sulphur, beat into a very fine powder, one part.
To each pound of this ointment add,
  Eſſence of lemons, or
  Oil of lavender, half a drachm.

Sulphur is a certain remedy for the itch, and ſafer than mercury. Sir John Pringle obſerves, that unleſs a mercurial unction was to touch every part of the ſkin, there can be no certainty of ſucceſs; whereas, from a ſulphureous one, a cure may be obtained by only partial unction, the animalcula, which are ſuppoſed to occaſion this diſorder, being, like other inſects, killed by the ſulphureous ſteams which exhale by the heat of the body. As to the internal uſe of mercury, which ſome have accounted a ſpecific, there are ſeveral inſtances of men undergoing a complete ſalivation for the cure of the lues venerea, without being freed from the itch: but there are alſo a multitude of inſtances of men undergoing a long courſe of ſulphur without effect, and who were afterwards readily cured by mercury.

The quantity of ointment, directed in the London pharmacopœia, ſerves for four unctions: the patient is to be rubbed every night: but to prevent any diſorder that might ariſe from ſtopping too many pores at once, a fourth part of the body is to be rubbed at one time. Though the itch may thus be cured by one pot of ointment, it will be proper to renew the application, and to touch the parts moſt affected, for a few nights longer, till a ſecond quantity alſo be exhauſted; and in the worſt caſes, to ſubjoin the internal uſe of ſulphur, not with a view to purify the blood, but to diffuſe the ſteams more certainly through the ſkin; there being reaſon to believe, that the animalcula may ſometimes lie too deep to be thoroughly deſtroyed by external applications.

UNGUENTUM TUTIÆ.

Lond.

Tutty Ointment.

Take of
  Prepared tutty, one drachm;
  Ointment of ſpermaceti, what is ſufficient.
Mix them ſo as to make a ſoft ointment.

UNGUENTUM TUTIÆ.

Edinb.

Ointment of Tutty.

Take of
  Simple liniment, five parts;
  Prepared tutty, one part.

These ointments have long been celebrated, and are ſtill much employed againſt affections of the eyes.

Tutty is ſometimes very impure, and acts only by means of the zinc it contains; and hence the ointment of tutty may be conſidered as inferior both to the *Ceratum lapidis calaminaris* and to the *Unguentum zinci*, which have alſo a place in our pharmacopœia.

LINIMENTUM SIMPLEX.
Edinb.
Simple Liniment.

Take of
Olive oil, four parts;
White wax, one part.

This conſiſts of the ſame articles which form the *Unguentum ſimplex* of the Edinburgh pharmacopœia, but merely in a different proportion, ſo as to give a thinner conſiſtence; and where a thin conſiſtence is requiſite, this may be conſidered as a very elegant and uſeful application.

LINIMENTUM AMMONIÆ.
Lond.
Liniment of Ammonia.

Take of
Water of ammonia, half an ounce;
Olive-oil, one ounce and an half.
Shake them together in a phial, till they are mixed.

This has long been known in the ſhops under the title of *Linimentum volatile*, but is now more properly denominated from the principal active article, which enters its compoſition. It has been much employed in practice, particularly on the recommendation of Sir John Pringle. He obſerves, that in the inflammatory quinſey, or ſtrangulation of the fauces, a piece of flannel, moiſtened with this mixture, applied to the throat, and renewed every four or five hours, is one of the moſt efficacious remedies. By means of this warm ſtimulating application, the neck, and ſometimes the whole body, is put into a ſweat, which, after bleeding, either carries off, or leſſens the inflammation. Where the ſkin cannot bear the acrimony of this mixture, a larger proportion of oil may be uſed.

LINIMENTUM AMMONIÆ FORTIUS.
Lond.
Stronger Liniment of Ammonia.

Take of
Water of pure ammonia, one ounce;
Olive oil, two ounces.
Shake them together in a phial.

OLEUM AMMONIATUM, vulgo LINIMENTUM VOLATILE.
Edin.
Ammoniated Oil, commonly called *Volatile Liniment.*

Take of
Olive-oil, two ounces;
Water of cauſtic ammonia, two drachms.
Mix them together.

These two articles differ from each other only in ſtrength. When too ſtrong, or too liberally applied, they ſometimes occaſion inflammations, and even bliſters; but they are much more powerful than the preceding one made with the mild volatile alkali.

LINIMENTUM AQUÆ CALCIS.
Edin.
Lime-water Liniment.

Take of
Lintſeed oil,
Lime water, of each equal parts.
Mix them.

This liniment is extremely uſeful in caſes of ſcalds or burns, being ſingularly efficacious in preventing, if applied in time, the inflammation ſubſequent to burns or ſcalds; or even in removing it after it has come on.

LINIMENTUM CAMPHORÆ COMPOSITUM.

Lond.

Compound Camphor Liniment.

Take of
- Camphor, two ounces;
- Water of pure ammonia, ſix ounces;
- Spirit of lavender, ſixteen ounces.

Mix the water of ammonia with the ſpirit; and diſtil from a glaſs retort, with a ſlow fire, ſixteen ounces. Then diſſolve the camphor in the diſtilled liquor.

This formula, which has now for the firſt time a place in the London pharmacopœia, approaches to the volatile eſſence of that celebrated empyric the late Dr Ward: But the above is a more elegant and active formula than either of the receipts publiſhed by Mr Page, from Dr Ward's book of receipts; and there is no reaſon to doubt that it will be equally effectual in removing ſome local pains, ſuch as particular kinds of headach.

LINIMENTUM OPIATUM, ſive ANODYNUM, vulgo BALSAMUM ANODYNUM.

Edinb.

The opiate or *Anodyne Liniment,* commonly called *Anodyne Balſam.*

Take of
- Opium, one ounce;
- White Caſtile ſope, four ounces;
- Camphor, two ounces;
- Diſtilled oil of roſemary, half an ounce;
- Rectified ſpirit of wine, two pounds.

Digeſt the opium and ſope in the ſpirit for three days; then to the ſtrained liquor add the camphor and oil, diligently ſhaking the veſſel.

The ſeveral ingredients in this formula are exceedingly well ſuited for the purpoſes expreſſed in the title of this preparation; the anodyne balſam has accordingly been uſed with much ſucceſs to allay pains in ſtrained limbs, and ſuch like topical affections.

LINIMENTUM SAPONACEUM, vulgo BALSAMUM SAPONACEUM.

Edinb.

Saponaceous Liniment or Balſam.

This is made in the ſame manner and of the ſame ingredients as the foregoing, only omitting the opium.

LINIMENTUM SAPONIS COMPOSITUM.

Lond.

Compound Sope-liniment.

Take of
- Sope, three ounces;

Camphor, one ounce;
Spirit of Roſemary, one pint.
Digeſt the ſope in the ſpirit of roſemary until it be diſſolved, and add to it the camphor.

These two, which do not materially differ, are intended as a ſimplification of the Opodeldoch of former pharmacopœias, and are employed againſt bruiſes, rheumatic pains, and other ſimilar complaints.

UNGUENTUM ÆGYPTIACUM.

Gen.

Egyptian Ointment.

Take of
Honey, one pound;
Strong vinegar, half a pound;
Verdegris, powdered, five ounces.
Let the ingredients be boiled together till the verdegris be diſſolved, ſo that the ointment may have a due degree of thickneſs and a purple colour.

This preparation had formerly a place in our pharmacopœias, under the title of *Mel Ægypticum*: and a ſimilar preparation has now a place under the title of *Oxymel æruginis*. It is a very powerful application for cleanſing and deterging foul ulcers, as well as for keeping down fungous fleſh; but theſe purpoſes may in general be anſwered by articles leſs acrid and exciting leſs pain. Beſides this, the above preparation is alſo liable to conſiderable uncertainty with reſpect to ſtrength; for a large proportion of the verdegris will in time ſubſide to the bottom: and what is in the top of the pot will prove much leſs active than that in the bottom.

UNGUENTUM ANODYNUM.

Gen.

Anodyne Ointment.

Take of
Olive-oil, ten drachms;
Yellow wax, half an ounce;
Crude opium, one drachm.
Mix them according to art, ſo as to form an ointment.

Opium thus externally applied, will in ſome degree be productive of the ſame effect as when uſed under the form of the anodyne balſam. In that ſtate it produces its effects more immediately; but under the preſent form, its effects are more permanent. Beſides this, the preſent ointment furniſhes us with an uſeful dreſſing for ſores attended with ſevere pain; to which opium when diſſolved in ſpirit cannot be applied. Hence the preſent, or ſome analogous formula, is well intitled to a place in our pharmacopœias.

UNGUENTUM ad CANCRUM EXULCERATUM.

Brun.

Ointment for an ulcerated Cancer.

Take of
The recently expreſſed juice of the ricinus, one pound.
Let it be expoſed to the rays of the ſun in a leaden veſſel till it acquire the conſiſtence of an oil; then to one pound of this inſpiſſated juice, add
Calcined lead,
White precipitate of mercury, each one pound.
Let them be properly mixed.

This acrid application muſt poſſeſs a conſiderable degree of corroſive power. And in ſome caſes of cancer, by the proper application of corroſives, much benefit may be done; But where the diſeaſe has made any conſiderable progreſs, theſe will in general have the effect rather of haſtening its progreſs than of removing it; particularly if there be a large indolent tumor below the ulcer.

UNGUENTUM DIGESTIVUM.

Roſs.

Digeſtive Ointment.

Take of
Venice turpentine, one pound;
The yolks of eight eggs.
Mix them together, according to art.

This warm ſtimulating application is well ſuited to promote the ſuppurative inflammation, and may be advantageouſly had recourſe to, where it is neceſſary to encourage a large diſcharge of pus.

UNGUENTUM HÆMORRHOIDALE.

Hæmorrhoidal Ointment.

Take of
Saturnine ointment, ſix drachms;
Oil of Hyoſcyamus, obtained by boiling, two drachms;
Camphor, powdered, two ſcruples;
Saffron, one ſcruple.
Mix them into an ointment.

The name affixed to this ointment expreſſes the purpoſe for which it is applied. From the articles of which it conſiſts, it may be concluded, that it poſſeſſes a gently emollient and anodyne power; and may therefore afford conſiderable relief, where much pain ariſes from external hæmorrhoidal tumours.

UNGUENTUM LAURINUM.

Suec.

Laurel Ointment.

Take of
Prepared mutton-ſuet, eight ounces.
After it is melted and removed from the fire, add to it,
Oil of bays, one pound;
Ethereal oil of turpentine, one ounce;
Rectified oil of amber, half an ounce.
Let them be mixed and rubbed together till they form an ointment.

This is an improved mode of forming an ointment which had formerly a place in our pharmacopœias under the title of *Unguentum nervinum.* It is a warm ſtimulating nervine application, which may in ſome degree reſtore ſenſe and motion to paralytic limbs; and while it at leaſt ſerves to lead to the careful uſe of friction, this may ſomewhat increaſe the benefit which would reſult from it.

UNGUENTUM e STYRACE.

Suec.

Ointment of Storax.

Take of
Olive-oil, a pound and a half;
White reſin,
Gum elemi,
Yellow wax, each ſeven ounces.
After they are melted together and ſtrained, add
Liquid ſtorax, ſeven ounces.
Mix them together, and agitate the mixture till it concretes into an uniform ointment.

An ointment ſuppoſed to derive its activity from the ſtorax, although it have no place in our pharmacopœias, is received into moſt of the foreign ones. It has been much celebrated not only as a ſtrengthening application to weakly children, but even for the removal of affections of the bones, as in caſes of rachitis and the like. It is however, very doubtful how far theſe properties depend on the ſtorax. If it have really any good effect, it is probable that this is more the conſequence of the friction merely, than of any of the articles which enter the compoſition of the ointment. But there is reaſon to believe that the virtues attributed to this ointment are more imaginary than real.

UNGUENTUM e CEPA.

Suec.

Onion Ointment.

Take of
Yellow wax,
Reſin, each half a pound.
To theſe melted, add
Onions roaſted under the aſhes,
Honey, each two pounds and a half;
Black ſope, half a pound.

Let them be gently boiled together till all the moiſture be conſumed, then ſtrain the liquor, expreſſing it from the materials, and afterwards agitate it with a wooden peſtle that it may unite into one uniform maſs.

This ointment is applied with the intention of promoting ſuppuration. The onion has long been ſuppoſed, eſpecially in its roaſted ſtate, to have a remarkable influence in this way: but there is reaſon to think, that the powers attributed to it have been greatly over-rated; and there is even ground to preſume that theſe effects totally depend on heat and moiſture. Hence no application is perhaps better ſuited for promoting ſuppuration than a poultice of bread and milk, applied as hot as can be borne with eaſe, and frequently repeated.

CHAP. XXXIV.

CERATA.

CERATES.

CERATES are ſubſtances intended for external application, formed of nearly the ſame materials which conſtitute ointments and plaſters; from which they differ principally in being of an intermediate conſiſtence between the two. Accordingly, they are ſeldom the ſubject of a ſeparate chapter by themſelves, but are claſſed either with the one or the other. In the Edinburgh pharmacopœia they are claſſed among the ointments: But as the London college have referred them to a ſeparate head, we ſhall here alſo conſider them by themſelves.

CERATUM SIMPLEX.

Edinb.

Simple Cerate.

Take of
  Olive-oil, ſix parts;
  White wax, three parts;
  Spermaceti one part.,
Unite them according to art.

THIS differs from the ſimple ointment in containing a greater proportion of wax to the oil, and in the addition of the ſpermaceti; by which it obtains only a more firm conſiſtence, without any eſſential change of properties.

CERATUM CANTHARIDIS.

Lond.

Cerate of Cantharides.

Take of
  Cerate of ſpermaceti, ſoftened with heat, ſix drachms;
  Spaniſh flies, finely powdered, one drachm.
Mix them.

UNDER this form cantharides may be made to act to any extent that is requiſite. It may ſupply the place either of the bliſtering plaſter or ointment: and there are caſes in which it is preferable to either. It is particularly more convenient than the *Emplaſtrum cantharidum,* where the ſkin to which the bliſter is to be applied is previouſly much affected, as in caſes of ſmall pox; and in ſupporting a drain under the form of iſſue, it is leſs apt to ſpread than the ſofter ointment.

CERATUM LAPIDIS CALAMINARIS.
Lond.
Calamine-cerate.

Take of
Calamine, prepared,
Yellow wax, of each half a pound;
Olive-oil, one pint.
Melt the wax with the oil; and, as ſoon as the mixture begins to thicken, mix with it the calamine, and ſtir the cerate until it be cold.

CERATUM LAPIDIS CALAMINARIS.
Edinb.
Cerate of Calamine.

Take of
Simple cerate, five parts;
Calamine prepared, one part.

These compoſitions are formed on the Cerate which Turner ſtrongly recommends in cutaneous ulcerations and excoriations, and which has been uſually diſtinguiſhed by his name. They appear from experience to be excellent epulotics, and as ſuch are frequently uſed in practice.

CERATUM LITHARGYRI ACETATI COMPOSITUM.
Lond.
Compound Cerate of acetated Litharge.

Take of
Water of acetated Litharge, two ounces and a half;
Yellow wax, four ounces;
Olive-oil, nine ounces;
Camphor, half a drachm.
Rub the camphor with a little of the oil. Melt the wax with the remaining oil, and as ſoon as the mixture begins to thicken, pour in by degrees the water of acetated litharge, and ſtir conſtantly until it be cold; then mix in the camphor before rubbed with oil.

This application has been rendered famous by the recommendations of Mr Goulard. It is unqueſtionably in many caſes very uſeful; it cannot, however, be conſidered as varying eſſentially from the ſaturnine ointment, formerly mentioned. It is employed with nearly the ſame intentions, and differs from it chiefly in conſiſtence.

CERATUM RESINÆ FLAVÆ.
Lond.
Cerate of yellow Reſin.

Take of
Ointment of yellow reſin, half a pound;
Yellow wax, one ounce.
Melt them together, and make a cerate.

This had formerly the name of *Unguentum citrinum.* It is no otherwiſe different from the yellow baſilicum, or *Unguentum reſinæ flavæ,* than being of a ſtiffer conſiſtence, which renders it more commodious for ſome purpoſes.

CERATUM SAPONIS.

Lond.

Sope Cerate.

Take of
Sope, eight ounces;
Yellow wax, ten ounces;
Litharge, powdered, one pound;
Olive oil, one pint;
Vinegar, one gallon.
Boil the vinegar with the litharge, over a ſlow fire, conſtantly ſtirring, until the mixture unites and thickens; then mix in the other articles, and make a cerate.

Notwithstanding the name, this cerate may rather be conſidered as another ſaturnine application; its activity depending very little on the ſope: It can hardly be thought to differ in its properties from the cerate of acetated litharge juſt mentioned. For neither the ſmall proportion of camphor which enters the compoſition of the one, nor the ſope which gives name to the other, can be conſidered as having much influence.

CERATUM SPERMATIS CETI.

Lond.

Cerate of Spermaceti.

Take of
Spermaceti, half an ounce;
White wax, two ounces;
Olive oil, four ounces.
Melt them together, and ſtir until the cerate be cold.

This had formerly the name of *Ceratum album*, and it differs in nothing from the *Unguentum ſpermatis ceti*, or *Linimentum album*, as it was formerly called, excepting in conſiſtence.

CERATUM LABIALE.

Roſſ.

Lip-Salve.

Take of
Olive-oil, eighteen ounces;
White wax, one pound;
Spermaceti, an ounce and a half;
Oil of rhodium, half a drachm.
Form a cerate, tinging it with alkanet, ſo as to give a red colour.

The name affixed to this cerate points out the uſe for which it is intended. It is chiefly employed againſt thoſe chops and excoriations of the lips, which are often the conſequence of cold weather; and it is very well ſuited for removing affections of that kind. Excepting in the colour and ſmell which it derives from the alkanet and rhodium, it differs in nothing from the cerate of ſpermaceti, and cannot be conſidered as more effectually anſwering the intention in view.

CEREI MEDICATI.

Suec.

Bougies.

Take of
Yellow wax, melted, one pound;
Spermaceti, three drachms;
Vinegar of litharge, two drachms.
Mix them, and upon removal from the fire immerſe into the mixture ſlips of linen, of which bougies are to be formed according to the rules of art.
Theſe may alſo be made with double, triple, or quadruple, the quantity of the vinegar of litharge.

It is perhaps rather ſurpriſing that no formula for the preparation of bougies has a place in our pharmacopœias: For there can be no doubt, that although the preparation of them has hitherto been principally truſted to empirics; yet in the hand of the ſkilful practitioner they are of great ſervice in combating obſtinate affections. Although it has been pretended by ſome that their influence is to be aſcribed to certain impregnations; yet it is on better grounds contended, that they act entirely on mechanical principles. The great object is therefore to obtain the union of a proper degree of firmneſs and flexibility. Theſe qualities the above compoſition poſſeſſes; and it does not probably derive any material benefit from being prepared with an additional proportion of the *Acetum lithargyri.*

C H A P. XXXV.

CATAPLASMATA.

CATAPLASMS.

BY cataplaſms are in general underſtood thoſe external applications, which are brought to a due conſiſtence or form for being properly applied, not by means of oily or fatty matters, but by water or watery fluids. Of theſe not a few are had recourſe to in actual practice; but they are ſeldom prepared in the ſhops of the apothecaries; and in ſome of the beſt modern pharmacopœias, no formulæ of this kind are introduced. The London college, however, although they have abridged the number of cataplaſms, ſtill retain a few; and it is not without ſome advantage that there are fixed forms for the preparation of them.

CATAPLASMA CUMINI.
Lond.
Cataplaſm of Cummin.

Take of
Cummin ſeed, one pound;
Bay-berries,
Dry leaves of water germander, or ſcordium,
Virginian ſnake-root, of each three ounces;
Cloves, one ounce.
Rub them altogether; and, with the addition of three times the weight of honey, make a cataplaſm.

THIS is adopted into the preſent edition of the London pharmacopœia with very little alteration from the laſt. It was then intended as a reformation of the *Theriaca Londinenſis*, which for ſome time paſt has been ſcarcely otherwiſe uſed than as a warm cataplaſm. In place of the numerous articles which formerly entered that compoſition, only ſuch of its ingredients are retained as contribute moſt to this intention: But even the article from which it now derives its name, as well as ſeveral others which ſtill enter, probably contribute very little to any medical properties it may poſſeſs.

CATAPLASMA SINAPEOS.

Lond.

Muſtard cataplaſm.

Take of
Muſtard ſeed, powdered,
Crumb of bread, of each half a pound;
Vinegar, as much as is ſufficient.
Mix and make a cataplaſm.

Cataplasms of this kind are commonly known by the name of *Sinapiſms*. They were formerly frequently prepared in a more complicated ſtate, containing garlic, black ſope, and other ſimilar articles; but the above ſimple form will anſwer every purpoſe which they are capable of accompliſhing. They are employed only as ſtimulants: they often inflame the part and raiſe bliſters, but not ſo perfectly as cantharides. They are frequently applied to the ſoles of the feet in the low ſtate of acute diſeaſes, for raiſing the pulſe and relieving the head. The chief advantage they have depends on the ſuddenneſs of their action.

CATAPLASMA ALUMINIS.

Lond.

Alum cataplaſm.

Take of
The whites of two eggs.
Shake them with a piece of alum till they be coagulated.

This preparation is taken from Riverius. It is an uſeful aſtringent cataplaſm for ſore, moiſt eyes, and excellently cools and repreſſes thin defluxions. Slighter inflammations of the eyes, occaſioned by duſt, expoſure to the ſun, or other ſimilar cauſes, are generally removed by fomenting them with warm milk and water, and waſhing them with ſolutions of white vitriol. Where the complaint is more violent, this preparation, after the inflammation has yielded a little to bleeding, is to be ſpread on lint, and applied at bed-time.

A TABLE, *ſhewing in what Proportions* MERCURY *or* OPIUM *enter different Formulæ.*

PULVIS cretæ compoſitus cum opio. Lond. In about forty-four grains, one grain of opium is contained.

Pulvis ipecacuanhæ compoſitus. Lond. In ten grains, one grain of opium. *Ed.* In eleven grains, one grain of opium.

Pulvis opiatus. Lond. In ten grains, one grain of opium.

Pulvis ſcammonii cum calomelane. Lond. In four grains, one grain of calomel.

Pilulæ opii. Lond. In five grains, one grain of opium. *Ed.* In ten grains, one grain of opium.

Pilulæ hydrargyri. Lond. In two grains and a half, one grain of mercury.

Pilulæ hydrargyri. Ed. In four grains, one grain of mercury.

Pilulæ hydrargyri muriati mitis. Ed. In two grains and two thirds, one grain of calomel.

Confectio opiata. Lond. In thirty-ſix grains, one grain of opium.

Electuarium catechu. Ed. In about one hundred and ninety-three grains, one grain of opium.

Electuarium opiatum. Ed. In every drachm, about one grain of opium.

Trochiſci glycyrrhizæ cum opio. Ed. In every drachm, about one grain of opium. Theſe trochiſci are not unfrequently ordered *cum duplice opio,* and under this form are kept in many ſhops.

Emplaſtrum ammoniacum cum hydrargyro. Lond. In five ounces, one ounce of mercury.

Emplaſtrum lithargyri cum hydrargyro. Lond. In five ounces, one ounce of mercury.

Emplaſtrum hydrargyri. Ed. In three ounces and two thirds, one ounce of mercury.

Unguentum hydrargyri fortius. Lon. In two drachms, one drachm of mercury.

Unguentum hydrargyri mitius. Lond. In five drachms, one drachm of mercury.

Unguentum hydrargyri. Ed. In five drachms, one drachm of mercury.

Unguentum hydrargyri nitrati. Lond. In one drachm, four grains of nitrated quickſilver.

Unguentum hydrargyri nitrati fortius. Ed. In one drachm, four grains of quickſilver, and eight of nitrous acid.

Unguentum calcis hydrargyri alba. Lond. In one drachm, four grains and two thirds of the calx hydrargyri alba.

Tinctura opii, Lond. is made with opium, in the proportion of one grain to about thirteen of the menſtruum. *Ed.* Is made with opium, in the proportion of one grain to twelve of the menſtruum, but by evaporation each drachm contains three grains and an half of opium.

Tinctura opii camphorata, *Lond.* is made with opium, in the proportion of one grain to two hundred and ſixty of the menſtruum.

Tinctura opii ammoniata, *Ed.* is made with opium, in the proportion of one grain to ſixty-eight of the menſtruum.

Linimentum opiatum, *Ed.* is made with opium, in the proportion of one grain to about thirty-one of the menſtruum.

TABLE *of* NAMES *changed in the* LONDON *and* EDINBURGH PHARMACOPOEIAS.

Names in former Pharmacopœias.	*New Names.*
A.	
ACETUM ſcilliticum.	Acetum ſcillæ. Lond.
Æthiops mineralis.	Hydrargyrus cum ſulphure. Lond. ſulphuratus niger. E.
Alkali fixum foſſile.	Soda. Ed.
vegetabile.	Lixiva. Ed.
volatile.	Ammonia. Ed.
Aqua aluminoſa Bateana.	Aqua aluminis compoſita. Lond.
calcis ſimplex,	calcis. Lond.
carvi ſpirituoſa.	Spiritus carvi. Ed.
cinnamomi ſimplex.	Aqua cinnamomi. Lond.
ſpirituoſa.	Spiritus cinnamomi. Lond. Ed.
fortis.	Acidum nitroſum dilutum. Lond. Ed.
hordeata.	Decoctum hordei. Lond.
juniperi compoſita.	Spiritus juniperi compoſitus. Lon Ed.
menthæ piperitidis ſimplex.	Aqua menthæ piperitidis. Lond.
ſpirituoſa.	Spiritus menthæ piperitidis. Lon. Ed.
vulgaris ſimplex.	Aqua menthæ ſativæ. Lond.
ſpirituoſa.	Spiritus menthæ ſativæ. Lond.
nucis moſchatæ.	nucis moſchatæ Lon. Ed.
piperis Jamaicenſis.	Aqua pimento. Lond.
pimentæ ſpirituoſa.	Spiritus pimento. Ed.
pulegii ſimplex.	Aqua pulegii. Lond.
ſpirituoſa.	Spiritus pulegii. Lond.
raphani compoſita.	raphani compoſitus. Lon.
roſarum damaſcenarum.	Aqua roſæ. Lond.
ſapphirina.	cupri ammoniati. Lond. æruginis ammoniatæ. Ed.
ſeminum anethi,	anethi. Lond.
aniſi compoſita,	Spiritus aniſi compoſitus. Lond.
carui.	carui. Lond.

Aqua

Names in former Pharmacopœias.	*New Names.*
Aqua ſtyptica.	Aqua cupri vitriolati. Ed.
vitriolica.	zinci vitriolati. Ed.
camphorata.	cum camphora. Lond.
Argentum vivum.	Hydrargyrus. Lond. Ed.
B.	
Balſamum anodynum.	Linimentum opiatum. Ed.
ſaponaceum.	ſaponaceum. Ed.
ſulphuris Barbadenſe.	Petroleum ſulphuratum. Lond.
ſimplex. craſſum.	Oleum ſulphuratum. Lond. Ed.
traumaticum.	Tinctura benzoes compoſita. Lon.
Butyrum antimonii.	Antimonium muriatum. Lon. Ed.
C.	
Calamus aromaticus.	Acorus. Ed.
Calomelas.	Hydrargyrus muriatus mitis. Ed.
Calx antimonii.	Antimonium calcinatum. Lond.
nitrata.	uſtum cum nitro. Ed.
Cauſticum antimoniale.	Antimonium muriatum. Lon. Ed.
commune fortius.	Calx cum kali puro. Lond.
lunare.	Argentum nitratum. Lond. Ed.
Chalybis rubigo.	Ferri rubigo. Lond.
Colcothar vitrioli.	Ferrum vitriolatum uſtum. Ed.
Cinnabaris factitia.	Hydrargyrus ſulphuratus ruber. L.
Coagulum aluminoſum.	Cataplaſma aluminis. Lond.
Confectio cardiaca.	Confectio aromatica. Lond. Electuarium aromaticum. Ed.
Japonica.	Electuarium catechu. Ed.
Cortex Peruvianus.	Cinchona. Lond.
Crocus metallorum.	Crocus antimonii. Ed.
D.	
Decoctum album.	Decoctum cornu cervi. Lond.
commune.	chamœmeli. Ed.
pro clyſtere.	pro enemate. Lond.
lignorum.	guajaci compoſitum. E.
pectorale.	hordei compoſitum. L.
Dens leonis.	Taraxacum. Lond. Ed.
Diacaſſia.	Electuarium caſſiæ. Ed.

Electuarium

Names in former Pharmacopœias.	*New Names.*
E.	
Electuarium lenitivum.	Electuarium ſennæ. Lond. Ed.
thebaicum.	opiatum. Ed.
Elixir aloes.	Tinctura aloes compoſita. Lond.
guajacinum.	guajaci. Ed.
volatile.	ammoniata. Ed.
myrrhæ compoſitum.	ſabinæ compoſitum. Lon.
paregoricum.	opii camphorata. Lond. ammoniata. Ed.
proprietatis.	aloes cum myrrha. Ed.
vitriolicum.	vitriolata. Ed.
ſacrum.	rhei cum aloes. Ed.
ſalutis.	ſennæ compoſita. Ed.
ſtomachicum.	gentianæ compoſita. Ed.
traumaticum.	benzoini compoſita. Ed.
vitrioli acidum.	Acidum vitrioli aromaticum. Ed.
dulce.	Spiritus ætheris vitriolici aromaticus. Ed.
Emplaſtrum adhæſivum.	Emplaſtrum reſinoſum. Ed.
antihyſtericum.	aſſæ fœtidæ. Ed.
attrahens.	ceræ compoſitum. L.
cæruleum.	hydrargyri.
cephalicum.	picis Burgundicæ compoſitum. Lond.
commune.	lithargyri. Lond. Ed.
adhæſivum.	cum reſina. Lond.
cum gummi.	compoſitum Lond.
cum mercurio.	cum hydrargyro. L.
e cymino.	cumini. Lond.
roborans.	thuris compoſitum. L. lithargyri compoſitum Ed.
e ſapone.	ſaponis. Lond.
ſimplex.	cereum. Ed.
ſtomachicum.	ladani compoſitum. L.
veſicatorium.	cantharidum. L. Ed.
Emulſio communis.	Lac amygdalæ. Lond.
Ens veneris.	Ferrum ammoniacale. Lond. ammoniatum. Ed.
Enula campana.	Helenium. Ed.
Extractum catharticum.	Extractum colocynthidis compoſitum. Lond.

Names in former Pharmacopœias.	*New Names.*
Extractum ligni Campechenſis.	Extractum hæmatoxyli. Lond.
corticis Peruviani.	cinchonæ. Lond.
thebaicum.	Opium purificatum. Lond.
F.	
Flores Benzoine.	Acidum Benzoicum. Ed.
martiales.	Ferrum ammoniacale. Lond. ammoniatum. Ed.
zinci.	Calx zinci. Lond. Zincum uſtum. Ed.
Fotus communis.	Decoctum pro fomento. Lond.
H.	
Hiera picra.	Pulvis aloes cum canello. Lond.
Helleborus albus.	Veratrum. Ed.
I.	
Infuſum amarum.	Infuſum gentianæ compoſitum. L. Ed.
Japonicum.	catechu. Ed.
ſennæ compoſitum.	ſennæ tartariſatum. Lond.
Julepum e camphora.	Miſtura camphorata. Lond.
e creta.	cretacea. Lond.
e moſcho.	moſchata. Lond.
L.	
Laudanum liquidum.	Tinctura opii. Lond. Ed.
Lignum Campechenſe.	Hæmatoxylum. Lond. Ed.
Lingua cervina.	Scolopendrium. Ed.
Linimentum album.	Unguentum ſpermatis ceti. Lon.
ſaponaceum.	Linimentum ſaponis. Lond.
volatile.	Linimentum ammoniæ. Lond. Oleum ammoniatum. Ed.
Lithargyrus,	Plumbum uſtum. Ed.
Lixivium cauſticum.	Aqua lixivia cauſtica. Ed.
ſaponarium.	Kali puri. Lond.
tartari.	præparati. Lond.

Names in former Pharmacopœias.	*New Names.*
M.	
Mel Ægyptiacum.	Oxymel æruginis. Lond.
Melampodium.	Helleborus niger. Lond.
Mercurius.	Hydrargyrus. Lond. Ed.
calcinatus.	calcinatus. Lond.
corroſivus ſublimatus.	muriatus. Lond. muriatus corroſivus. Ed.
ruber.	nitratus ruber. Lon. Ed.
dulcis.	Calomelas. Lond. Hydrargyrus muriatus mitis. Ed.
emeticus flavus.	vitriolatus flavus. L. Ed.
præcipitatus ruber.	nitratus ruber. Ed.
albus.	Calx hydrargyri alba. Lond.
Minium	Plumbum uſtum rubrum. Ed.
N.	
Nitrum vitriolatum.	Kali vitriolata. Lond.
Nux moſchata.	Myriſtica. Lond. Ed.
O.	
Oculi cancrorum.	Lapilli cancrorum. Ed.
Oleum animale.	Oleum e cornubus rectificatum. Ed.
tartari.	Aqua kali præparati. Lond.
Oxymel ſimplex.	Mel acetatum. Lond.
P.	
Philonium Londinenſe.	Confectio opiata. Lond.
Pilulæ aromaticæ.	Pulvis aloeticus cum guajaco. Lon.
calomelanos compoſitæ.	Pilulæ hydrargyri muriati mitis. E.
cocciæ.	aloes cum colocynthide. Ed.
ecphracticæ.	Pulvis aloes cum ferro. Lond.
gummoſæ.	Pilulæ galbani compoſitæ. Lond. aſſæ fætidæ compoſitæ. Ed.
mercuriales.	hydrargyri.
pacificæ.	opii.
Plummeri.	hydrargyri muriati mitis. Ed.

Names in former Pharmacopœias.	*New Names.*
Pilulæ Rufi.	Pilulæ aloes cum myrrha. L. Ed.
ſtomachicæ.	rhei compoſitæ.
Piper Jamaicenſe.	Pimenta. Lond. Ed.
Pulvis e bolo compoſitus.	Pulvis cretæ compoſitus. Lond.
cum opio.	cum opio. Lond.
e ceruſſa compoſitus.	ceruſſæ. Lond.
e chelis cancrorum.	cancri chelarum. Lond.
Doveri.	ipecacuanhæ compoſitus. L. Ed.
mercurii cinereus.	Hydrargyrus præcipitatus cinereus. Ed.
ſternutatorius.	Pulvis aſari compoſitus. Lon. Ed.
ſtypticus.	aluminis compoſitus. Ed.

R.

Rob ſambuci.	Succus baccarum ſambuci ſpiſſatus. Lond. Ed.

S.

Saccharum Saturni.	Ceruſſa acetata. Lond. Ed.
Sal abſinthii.	Kali præparata. Lond. Lixiva purificata. Ed.
Sal alkalinus fixus foſſilis purificatus.	Natron. Lond. Soda purificata. Ed.
vegetabilis purif.	Kali præparata. Lond. Lixiva purificata. Ed.
ammoniacus volatilis.	Ammonia præparata. Lond. Ed.
catharticus amarus.	Magneſia vitriolata. Lond. Ed.
Glauberi.	Natron vitriolatum. Lond. Soda vitriolata. Ed.
chalybis.	Ferrum vitriolatum. Lond. Ed.
diureticus.	Kali acetata. Lond. Lixiva acetata. Ed.
marinus.	Natron muriatum. Lond. Soda muriata. Ed.
martis.	Ferrum vitriolatum. Lond. Ed.
polychreſtus.	Kali vitriolata. Lond. Lixiva vitriolata. Ed.
plumbi.	Ceruſſa acetata. Lond. Ed.
Rupellenſis. Seignette.	Natron tartariſatum. Lond. Soda tartariſata. Ed.
tartari.	Kali præparata. Lond. Lixiva e tartaro. Ed.

Sal

Names in former Pharmacopœias.	*New Names.*
Sal vitrioli.	Zincum vitriolatum. Lond. Ed.
Species aromaticæ.	Pulvis aromaticus. Lond. Ed.
Spina cervina.	Rhamnus catharticus. Ed.
Sperma ceti.	Sevum ceti. Ed.
Spiritus cornu cervi.	Liquor volatilis cornu cervi. Lon. Aqua ammoniæ ex oſſibus. Ed.
Mindereri.	Aqua ammoniæ acetatæ. Lon. Ed.
nitri.	Acidum nitroſum. Lond. Ed.
dulcis.	Spiritus ætheris nitroſi. Lon. Ed.
ſalis ammoniaci.	Aqua ammoniæ. Lond. Ed.
dulcis vel vinoſus.	Spiritus ammoniæ. Lond. Ed.
cum calce viva.	Aqua ammoniæ cauſtica. Ed. pura. Lond.
ſalis marinus.	Acidum muriaticum Lond. Ed.
ſalinus aromaticus.	Spiritus ammoniæ aromaticus. Ed. compoſitus. L.
vitrioli tenuis.	Acidum vitriolicum dilutum. Lon. Ed.
dulcis.	Spiritus ætheris vitriolicus. Lond. Ed.
volatilis aromaticus.	Spiritus ammoniæ compoſitus. L. aromaticus. Ed.
fœtidus.	fœtidus. Lond. Ed.
Stibium.	Antimonium. Ed.
Succi ſcorbutici.	Succus cochleariæ compoſitus. L. Ed.
Sulphur auratum antimonii.	Sulphur antimonii præcipitatum. Lond. Ed.
Syrupus balſamicus.	Syrupus tolutanus. Lond. Ed.
diacodion. e meconio.	papaveris albi. Lon. Ed.
e ſpina cervina.	rhamni cathartici. Ed.

T.

Tabellæ cardialgicæ.	Trochiſci cretæ. Lond.
Tartari cryſtalli.	Tartarum purificatum. Ed.
Tartarum emeticum.	Antimonium tartariſatum. Lond. Ed.
regeneratum.	Kali acetata. Lond. Lixiva acetata. Ed.
ſolubile.	Kali tartariſatum. Lond. Lixiva tartariſata. Ed.
vitriolatum.	Kali vitriolata. Lond. Lixiva vitriolata. Ed.

Names in former Pharmacopœias.	*New Names.*
Tinctura amara.	Tinctura gentianæ compoſita. L.
aromatica.	cinnamomi compoſita. L. Ed.
corticis Peruviani.	cinchonæ. Lond.
volatilis.	cinchonæ ammoniata. L.
fœtida.	aſæ fœtidæ. Lon. Ed.
florum martialium.	ferri ammoniacalis. Lon.
guajacina volatilis.	guajaci. Lon.
Japonica.	Catechu. Lond. Ed.
hellebori albæ.	veratri. Ed.
nigri.	melampodii. Ed.
martis.	ferri muriati. Lond. ferri. Ed.
melampodii.	hellebori nigri. Lond.
rhabarbari ſpirituoſa.	rhabarbari. Lond. rhei. Ed.
vinoſa.	Vinum rhabarbari. Lond. rhei. Ed.
roſarum.	Infuſum roſæ. Lond. roſarum. Ed.
Tinctura ſacra.	Vinum aloes. Lond. aloeticum. Ed.
ſtomachica.	Tinctura cardamomi compoſita. L.
thebaica.	opii. Lond. Ed.
valerianæ volatilis.	valerianæ ammoniata. L. Ed.
Trifolium paluſtre.	Menyanthes trifoliata. Ed.
Trochiſci bechici albi.	Trochiſci amyli. Lond. Arabici. Ed.
cardialgici.	cretæ. Lond.
nigri.	glycyrrhizæ. Lon. Ed.
cum opio.	cum opio. Ed.
Turpethum minerale.	Hydrargyrus vitriolatus flavus. L. Ed.
U.	
Unguentum album.	Unguentum ceræ. Lond. ceruſſæ. Ed.
antiſporicum,	ſulphuris. Ed.
baſilicum flavum.	reſinæ flavæ. Lond. reſinoſum. Ed.
cæruleum.	hydrargyri. Lon. Ed.
citrinum.	nitrati. L. Ed.

Un-

Names in former Pharmacopœias.	*New Names.*
Unguentum epiſpaſticum fortius.	Unguentum cantharidis. Lond. pulveris cantharidum. Ed.
mitius.	infuſi cantharidum. E.
e mercurio precipitato.	calcis hydrargyri albæ. Lond.
Saturninum.	ceruſſæ acetatæ. Lon. Ed.
veſicatorium.	cantharidum. L. Ed.
Vinum antimoniale.	Vinum antimonii. Lond. tartariſati. Ed.
chalybeatum.	ferri. Lond.
Vitriolum album.	Zincum vitriolatum. Lond. Ed.
cæruleum.	Cuprum vitriolatum. Lond. Ed.
viride.	Ferrum vitriolatum. Lond. Ed.
calcinatum.	exſiccatum. Ed.

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FINIS.

FURNACES, BEAMS, WEIGHTS, & MEASURES.

THE IRON WORK for the furnaces deſcribed in pages 45, &c. is made, according to the directions there given, by *Ebenezer Annan*, Smith, oppoſite the ſouth-weſt corner of the College, Edinburgh.

TROY WEIGHTS, and BEAMS & SCALES, are made and ſold by *John Milne & Son*, founders in the High Street, Edinburgh.

GLASS MEASURES, adapted to the Troy weights, are made by the *Edinburgh Glaſs Houſe Company*; and ſold at their warehouſe at Leith, and by the principal druggiſts in Edinburgh.

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B.P.L. Bindery.
JUN 29 1895